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What is claimed is:

1. A compound of the formula:

$$R_4$$
 $R_5$ 
 $R_1$ 
 $R_2$ 
 $R_1$ 
 $R_2$ 
 $R_1$ 

or a pharmaceutically acceptable salt thereof, wherein

5 R<sub>1</sub> is H, halogen, NO<sub>2</sub>, alkyl, carboxaldehyde, hydroxyalkyl, dihydroxyalkyl, arylalkoxy, arylalkyl, alkenyl, alkynyl, arylalkynyl, -CN, aryl, alkanoyl, alkoxy, alkoxyalkyl, haloalkyl, haloalkoxy, carboxyl, or arylalkanoyl,

wherein the aryl portion of arylalkoxy, arylalkyl, and arylalkanoyl is unsubstituted or substituted with 1, 2, 3, 4, or 5 groups that are independently halogen,  $C_1$ - $C_4$  alkyl,  $C_1$ - $C_4$  alkoxy, nitro, CN, haloalkyl, haloalkoxy or  $CO_2R$ ;

wherein the alkyl portion of the alkyl, hydroxyalkyl, dihydroxyalkyl, arylalkoxy, arylalkyl, alkanoyl, alkoxy, alkoxyalkyl and arylalkanoyl groups is unsubstituted or substituted with 1, 2, or 3 groups that are independently halogen, C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>1</sub>-C<sub>4</sub> alkoxycarbonyl, or C<sub>3</sub>-C<sub>7</sub> cycloalkyl;

halogen,  $-OSO_2-(C_1-C_6)$  alkyl,  $-OSO_2$ -aryl, 20 is Η, OH, arylthio, arylalkoxy, aryloxy, arylthioalkoxy, arylalkynyl, alkoxy, aryloxy(C1-C6)alkyl, alkyl, alkynyl, -OC(O)NH(CH<sub>2</sub>)<sub>n</sub>aryl, -OC(O)N(alkyl)(CH<sub>2</sub>)<sub>n</sub>aryl, alkoxyalkoxy, dialkylamino, alkyl, alkoxy, aryl, arylalkyl, heteroaryl, 25 heteroarylalkyl, arylalkenyl, heterocycloalkyl, heterocycloalkylalkyl, alkoxyalkoxy, NR<sub>8</sub>R<sub>9</sub>, dialkylamino, or CO<sub>2</sub>R, wherein

n is 0, 1, 2, 3, 4, 5 or 6;

each of which groups is unsubstituted or substituted with

1, 2, 3, 4, or 5 groups that are independently

halogen,  $-(C_1-C_6)$  alkyl-N(R)  $-CO_2R_{30}$ , haloalkyl, heteroarylalkyl,  $-NR_6R_7$ , heteroaryl,  $R_6R_7N - (C_1 - C_6)$  $alkyl) - , -C(O)NR_6R_7, -(C_1-C_4)alkyl-C(O)NR_6R_7, -(C_1-C_4)alkyl-C(O)NR_6R_7, -(C_1-C_4)alkyl-C(O)NR_6R_7$ alkyl)-NRC(0)NR<sub>16</sub>R<sub>17</sub>, haloalkoxy, alkyl, CN, 5 hydroxyalkyl, dihydroxyalkyl, alkoxy, alkoxycarbonyl, phenyl, -SO<sub>2</sub>-phenyl wherein the phenyl and -SO<sub>2</sub>-phenyl groups are optionally substituted with 1, 2, or 3 groups that are independently halogen or NO2, or -OC(O)NR6R7, wherein  $R_{16}$  and  $R_{17}$  are independently H or  $C_1\text{-}C_6$  alkyl; or 10  $R_{16}$ ,  $R_{17}$  and the nitrogen to which they are attached form a morpholinyl ring; R<sub>6</sub> and R<sub>7</sub> are independently at each occurrence H, alkyl, hydroxyalkyl, dihydroxyalkyl, alkoxy, 15 alkanoyl, arylalkyl, arylalkoxy, alkoxycarbonyl, -SO<sub>2</sub>-alkyl, OH, alkoxy, alkoxyalkyl, arylalkoxycarbonyl,  $-(C_1-C_4)$  alkyl-CO2-alkyl, heteroarylalkyl, or arylalkanoyl, wherein each is unsubstituted or substituted with 1, 2, or 3 groups that are independently, 20 SH, heterocycloalkyl, halogen, OH, heterocycloalkylalkyl, C3-C7 cycloalkyl, alkoxy, NH(alkyl), N(alkyl)(alkyl), -O-alkanoyl, alkyl, haloalkyl, carboxaldehyde, 25 haloalkoxy; or  $R_6$ ,  $R_7$ , and the nitrogen to which they are attached form morpholinyl, pyrrolidinyl, thiomorpholinyl, thiomorpholinyl S-oxide, thiomorpholinyl S,S-dioxide, piperidinyl, pyrrolidinyl, or piperazinyl ring which is 30 optionally substituted with 1 or 2 groups that are independently C<sub>1</sub>-C<sub>4</sub> alkyl, alkoxycarbonyl,

 $C_1 - C_4$ alkoxy, hydroxyl, hydroxyalkyl, dihydroxyalkyl, or halogen; R at each occurrence is independently hydrogen or C1-C<sub>6</sub> alkyl optionally substituted with 1 or 2 5 groups that are independently OH, SH, halogen, amino, monoalkylamino, dialkylamino or C<sub>3</sub>-C<sub>6</sub> cycloalkyl;  $R_{30}$  is  $C_1$ - $C_6$  alkyl optionally substituted with 1 or 2 groups that are independently OH, SH, halogen, 10 amino, monoalkylamino, dialkylamino or cycloalkyl; each R<sub>8</sub> is independently hydrogen, alkyl, alkanoyl, arylalkyl and arylalkanoyl, wherein each of the above is optionally substituted with 1, 2, 3, 15 4, or 5 groups that are independently alkyl, alkoxy, alkoxycarbonyl, halogen, or haloalkyl; each R9 is hydrogen, alkyl, alkanoyl, arylalkyl, cycloalkyl, cycloalkylalkyl, alkenyl, aminoalkyl, monoalkylaminoalkyl, heteroaryl, 20 dialkylaminoalkyl, arylalkanoyl, -SO<sub>2</sub>-phenyl, aryl wherein each of the above optionally substituted with 1, 2, 3, 4, or 5 groups that are independently alkyl, alkoxy, alkoxycarbonyl, halogen, or haloalkyl; 25 R4 is hydrogen or R4 is alkyl unsubstituted or substituted with one or two groups that are independently CO2R, -CO2-(C1- $-C(0)R_{6}$  $-N(R_{30})C(O)NR_{16}R_{17}$  $C_6$ ) alkyl,  $-C(0)NR_6R_7$  $N(R_{30})C(0) - (C_1-C_6)alkoxy$ , or  $-NR_6R_7$ , arylalkoxy, arylalkyl, heteroarylalkyl, heteroaryl, hydroxyalkyl, dihydroxyalkyl, haloalkyl,  $R_6R_7N-(C_1-C_6 \text{ alkyl})-$ ,  $-NR_6R_7$ , 30 alkoxy, hydroxyalkoxy-,  $(R_6R_7N)$ -alkoxy-,  $R_6R_7NC(0)$ -alkoxy-,  $R_6C(O)N(R_7)$  alkoxy-, carboxaldehyde, -C(O)NR<sub>6</sub>R<sub>7</sub>,

alkoxyalkyl, or alkoxyalkoxy, wherein the heteroaryl or

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aryl portions of is the above are unsubstituted or substituted with 1, 2, 3, 4, or 5 groups that are independently halogen, hydroxy, alkoxy, alkyl,  $-CO_2-(C_1-C_6)$  alkyl,  $-CONR_6R_7$ ,  $-NR_6R_7$ ,  $R_6R_7N-(C_1-C_6)$  alkyl-, nitro, haloalkyl, or haloalkoxy; and  $R_5$  is H, aryl, arylalkyl, arylthioalkyl, alkyl optionally substituted with 1, 2, or 3 groups that are independently arylalkoxycarbonyl,  $-NR_8R_9$ , halogen,  $-C(O)NR_8R_9$ ,

alkoxycarbonyl, C<sub>3</sub>-C<sub>7</sub> cycloalkyl, or alkanoyl, alkoxy, optionally 10 alkoxyalkyl substituted with trimethylsilyl group, amino, alkoxycarbonyl,  $\label{eq:hydroxyalkyl, alkynyl, -SO2-alkyl, alkoxy} \ \ \ \text{hydroxyalkyl, alkynyl, -SO2-alkyl, alkoxy}$ optionally substituted with one trimethylsilyl group, heterocycloalkylalkyl, cycloalkyl, cycloalkylalkyl, 15 -alkyl-S-aryl, -alkyl-SO<sub>2</sub>-aryl, heteroarylalkyl, heterocycloalkyl, heteroaryl, or alkenyl optionally

substituted with alkoxycarbonyl, wherein

each of the above is unsubstituted or substituted with 1, 2, 3, 4, or 5 groups that are independently alkyl, halogen, alkoxy, hydroxyalkyl, dihydroxyalkyl, arylalkoxy, thioalkoxy, alkoxycarbonyl, arylalkoxycarbonyl, CO<sub>2</sub>R, CN, OH, hydroxyalkyl, dihydroxyalkyl, amidinooxime; -NR<sub>6</sub>R<sub>7</sub>, -NR<sub>8</sub>R<sub>9</sub>, R<sub>6</sub>R<sub>7</sub>N- $(C_1-C_6 \text{ alkyl})$ -, carboxaldehyde,  $SO_2$ alkyl,  $-SO_2H$ , -SO<sub>2</sub>NR<sub>6</sub>R<sub>7</sub>, alkanoyl wherein the alkyl portion is optionally substituted with OH, halogen or alkoxy, - $C(0)NR_6R_7$ - (C<sub>1</sub>-C<sub>4</sub> alkyl)-C(0) $NR_6R_7$ amidino, haloalkyl,  $-(C_1-C_4)$  alkyl)  $-NR_{15}C(0)NR_{16}R_{17}$ ,  $-(C_1-C_4)$ alkyl)  $-NR_{15}C(O)R_{18}$ ,  $-O-CH_2-O$ ,  $-O-CH_2CH_2-O-$ , haloalkoxy; wherein

 $R_{15}$  is H or  $C_1$ - $C_6$  alkyl; and

 $R_{18}$  is  $C_1$ - $C_6$  alkyl optionally substituted with -O-( $C_2$ - $C_6$  alkanoyl,  $C_1$ - $C_6$  hydroxyalkyl,  $C_1$ - $C_6$  dihydroxyalkyl,

 $C_1$ - $C_6$  alkoxy,  $C_1$ - $C_6$  alkoxy  $C_1$ - $C_6$  alkyl, amino  $C_1$ - $C_6$  alkyl, mono or dialkylamino  $C_1$ - $C_6$  alkyl.

2. A compound according to claim 1, of the formula:

$$\begin{array}{c|c}
R_2 \\
R_4 \\
R_5
\end{array}$$

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or a pharmaceutically acceptable salt thereof, wherein

R<sub>1</sub> is H, halogen, alkyl, carboxaldehyde, hydroxyalkyl, dihydroxyalkyl, arylalkoxy, arylalkyl, alkenyl, alkynyl, arylalkynyl, CN, alkanoyl, alkoxy, alkoxyalkyl, haloalkyl, carboxyl, or arylalkanoyl,

wherein the aryl portion of arylalkoxy, arylalkyl, and arylalkanoyl is unsubstituted or substituted with 1, 2, 3, 4, or 5 groups that are independently halogen,  $C_1$ - $C_4$  alkyl,  $C_1$ - $C_4$  alkoxy, nitro, CN, haloalkyl, haloalkoxy or  $CO_2R$ ;

wherein the alkyl portion of the alkyl, hydroxyalkyl, dihydroxyalkyl, arylalkoxy, arylalkyl, alkanoyl, alkoxy, alkoxyalkyl and arylalkanoyl groups is unsubstituted or substituted with 1, 2, or 3 groups that are independently halogen, C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>1</sub>-C<sub>4</sub> alkoxycarbonyl, or cyclopropyl;

R<sub>2</sub> is H, OH, halogen,  $-OSO_2-(C_1-C_6)$  alkyl,  $-OSO_2$ -aryl, arylalkoxy, aryloxy, arylthioalkoxy, arylalkynyl, alkoxy, phenyloxy( $C_1-C_6$ ) alkyl,  $-OC(O)NH(CH_2)_naryl$ ,  $-OC(O)N(alkyl)(CH_2)_naryl$ , alkyl, alkynyl, alkoxyalkoxy,

-OC(O)N(alkyl)(CH<sub>2</sub>)<sub>n</sub>aryl, alkyl, alkynyl, alkoxyalkoxy, dialkylamino, heteroaryl, heterocycloalkyl, aryloxyalkyl, or  $CO_2R$ , wherein

each of the above is unsubstituted or substituted with 1, 2, 3, 4, or 5 groups that are independently halogen,  $-NR_6R_7$ , haloalkyl, haloalkoxy, alkyl, heteroaryl,

heteroarylalkyl,  $-(C_1-C_4)$  alkyl-C(0) NR<sub>6</sub>R<sub>7</sub>, R<sub>6</sub>R<sub>7</sub>N $-(C_1-C_6)$ alkyl) -, -C(O)  $NR_6R_7$ , -( $C_1$ - $C_4$  alkyl) -NRC(O)  $NR_{16}R_{17}$ , CN, hydroxyalkyl, dihydroxyalkyl,  $-OC(0)NR_6R_7$ , or  $-(C_1-C_1-C_1)$  $C_6$ ) alkyl-N(R)- $CO_2R_{30}$ , wherein R<sub>16</sub> and R<sub>17</sub> are independently H or C<sub>1</sub>-C<sub>6</sub> alkyl; or 5  $R_{16}$ ,  $R_{17}$  and the nitrogen to which they are attached form a morpholinyl ring; R<sub>6</sub> and R<sub>7</sub> are independently at each occurrence H, alkyl, hydroxyalkyl, dihydroxyalkyl, arylalkyl, arylalkoxy, alkoxyalkyl, alkanoyl, 10 arylalkoxycarbonyl, or arylalkanoyl, wherein of the above is unsubstituted each substituted with 1, 2, or 3 groups that are independently, halogen, alkoxy, alkyl, OH, SH, carboxaldehyde, haloalkyl, or haloalkoxy; or 15  $R_6$ ,  $R_7$ , and the nitrogen to which they are attached form morpholinyl, thiomorpholinyl, а thiomorpholinyl S-oxide, thiomorpholinyl S,Sdioxide, piperidinyl, pyrrolidinyl, 20 piperazinyl ring which is optionally substituted with 1 2 groups orthat independently C<sub>1</sub>-C<sub>4</sub> alkyl, alkoxycarbonyl, hydroxyalkyl, dihydroxyalkyl, hydroxyl, halogen; n is 0, 1, 2, 3, 4, 5 or 6; 25 R at each occurrence is independently H or C1-C6 alkyl optionally substituted with 1 or 2 groups that are independently OH, SH, halogen, amino, monoalkylamino, dialkylamino or C3-C6 cycloalkyl;  $R_{30}$  is  $C_1$ - $C_6$  alkyl optionally substituted with 1 or 2 30 groups that are independently OH, SH, halogen, amino, monoalkylamino, dialkylamino

cycloalkyl;

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 $R_4$  is H, alkyl optionally substituted with one or two groups independently CO<sub>2</sub>R, -CO<sub>2</sub>alkyl,  $-C(0)NR_6R_7$ that are  $-C(0)R_6$ ,  $-N(R_{30})C(0)NR_{16}R_{17}$ ,  $-N(R_{30})C(0)-(C_1-C_6)$  alkoxy, or -NR<sub>6</sub>R<sub>7</sub>, arylalkoxy, heteroaryl, arylalkyl, hydroxyalkyl, dihydroxyalkyl, haloalkyl,  $-NR_6R_7$ ,  $-C(0)NR_6R_7$ , alkoxy, hydroxyalkoxy-,  $(R_6R_7N)$  -alkoxy-,  $R_6R_7NC(0)$  -alkoxy-,  $R_6C(0)N(R_7)$  alkoxy-, alkoxyalkyl, or alkoxyalkoxy, wherein the heteroaryl or aryl portions of the above are unsubstituted or substituted with 1, 2, 3, 4, or 5 groups that are independently halogen, hydroxy, alkoxy, alkyl,  $-CO_2-(C_1-C_6)$  alkyl,  $-CONR_6R_7$ ,  $R_6R_7N-(C_1-C_6)$  alkyl-, nitro, haloalkyl, or haloalkoxy; and

 $R_5$  is H, arylalkyl, alkyl optionally substituted with 1, 2, or 15 3 groups that are independently arylalkoxycarbonyl, - $NR_8R_9$ , halogen, -C(0)  $NR_8R_9$ , alkoxycarbonyl, or alkanoyl, alkoxyalkyl optionally substituted with one trimethylsilyl alkoxycarbonyl, amino, group, hydroxyalkyl, dihydroxyalkyl, alkenyl optionally 20 substituted with alkoxycarbonyl, alkynyl, -SO<sub>2</sub>-alkyl, optionally substituted with aryl, alkoxy trimethylsilyl heterocycloalkylalkyl, group, heteroarylalkyl, heterocycloalkyl, or heteroaryl, wherein each of the above is unsubstituted or substituted with 1, 25 2, 3, 4, or 5 groups that are independently alkyl, halogen, alkoxy, arylalkoxy, hydroxyalkyl, dihydroxyalkyl, thioalkoxy, -SO₂alkyl, alkoxycarbonyl, arylalkoxycarbonyl, CO₂R, CN, OH, amidinooxime,  $NR_8R_9$ ,  $R_6R_7N-(C_1-C_6 \text{ alkyl})-$ ,  $-C(O)NR_6R_7$ , amidino, 30 hydroxyalkyl, dihydroxyalkyl, carboxaldehyde,  $-NR_6R_7$ , haloalkyl,  $-(C_1-C_4 \text{ alkyl})$ - $C(0)NR_6R_7$ ,  $-(C_1-C_4 \text{ alkyl})-CO_2R$ ,  $-(C_1-C_4 \text{ alkyl})-C_1-C_6$ alkoxycarbonyl,  $-(C_1-C_4 \text{ alkyl})-CN$ ,  $-(C_1-C_4 \text{ alkyl})-$ 

- $NR_{15}C(O)R_{18}$ ,  $-O-CH_2-O-$ ,  $-O-CH_2CH_2-O-$ , phenyl or haloalkoxy;
- 5 R<sub>9</sub> is alkyl, alkanoyl, arylalkyl, heteroaryl, aminoalkyl, monoalkylaminoalkyl, dialkylaminoalkyl, and arylalkanoyl.
  - 3. A compound according to claim 2 wherein
- R<sub>1</sub> is H, halogen, alkyl optionally substituted with C<sub>1</sub>-C<sub>4</sub> 10 alkoxycarbonyl, carboxaldehyde, hydroxyalkyl, dihydroxyalkyl, phenyl  $(C_1-C_6)$  alkoxy, phenyl  $(C_1-C_6)$  alkyl, CN, alkanoyl, alkoxy,  $C_2-C_4$ alkynyl, C<sub>2</sub>-C<sub>6</sub> alkenyl substituted optionally with  $C_1 - C_4$ alkoxycarbonyl, 15 alkoxyalkyl, haloalkyl, or phenyl(C<sub>1</sub>-C<sub>6</sub>)alkanoyl,
  - wherein the phenyl groups are unsubstituted or substituted with 1, 2, 3, 4, or 5 groups that are independently halogen,  $C_1$ - $C_4$  alkyl,  $C_1$ - $C_4$  alkoxy, nitro, CN,  $CF_3$ ,  $OCF_3$  or  $CO_2R$ ;
- wherein the alkyl groups are unsubstituted or substituted with 1, 2, or 3 groups that are independently halogen, methoxy, or ethoxy;
- $R_2$  is OH, phenyl( $C_1$ - $C_6$ )alkoxy, phenyloxy, phenyloxy( $C_1$ - $C_6$ )alkyl, phenyl  $(C_1-C_4)$  thioalkoxy,  $C_1-C_8$  alkoxy, alkoxyalkoxy, -0-25 SO<sub>2</sub>phenyl, alkynyl, phenyl  $(C_2-C_4)$  alkynyl, alkyl, -OC(O)NH(CH<sub>2</sub>)<sub>n</sub>phenyl,-OC(O)N(alkyl)(CH<sub>2</sub>)<sub>n</sub>phenyl, dialkylamino, pyridyl, pyrimidyl, pyridazyl, pyrazolyl, tetrahydroquinolinyl, imidazolyl, pyrrolyl, tetrahydroisoguinolinyl, tetrazolyl, pyrazinyl, benzimidazolyl, triazinyl, tetrahydrofuryl, piperidinyl, 30

n is 0, 1, 2, 3, 4, 5 or 6;

hexahydropyrimidinyl, thiazolyl, thienyl, or CO<sub>2</sub>R, wherein

each of the above is unsubstituted or substituted with 1, 2, 3, 4, or 5 groups that are independently halogen, haloalkyl, haloalkoxy, hydroxyalkyl,  $NR_6R_7$ , dihydroxyalkyl, alkyl, phenyl, pyridyl, piperidinyl, 5 piperazinyl,  $-(C_1-C_6)$  alkyl $-N(R)-CO_2R_{30}$ ,  $R_6R_7N - (C_1 - C_6)$ alkyl) -, -C(0) NR<sub>6</sub>R<sub>7</sub>, -( $C_1$ - $C_4$ ) alkyl-C(0) NR<sub>6</sub>R<sub>7</sub>, -( $C_1$ - $C_4$ alkyl)-NRC(O)NR<sub>16</sub>R<sub>17</sub>, or -OC(O)NR<sub>6</sub>R<sub>7</sub>, wherein  $R_6$  and  $R_7$  are independently at each occurrence H,  $(C_1 - C_4)$ hydroxyalkyl, alkyl, 10 dihydroxyalkyl,  $(C_1-C_4)$  alkoxy,  $(C_1-C_4)$ alkoxy  $(C_1-C_4)$  alkyl,  $(C_1-C_4)$  alkanoyl, phenyl  $(C_1-C_4)$ phenyl  $(C_1-C_4)$  alkoxy, phenyl alkyl,  $(C_1-C_4)$ alkoxycarbonyl, or phenyl  $(C_1-C_4)$ alkanoyl, wherein each of the above is unsubstituted or substituted with 1, 2, or 3 groups that are 15 independently, halogen, OH, SH,  $C_3 - C_6$ cycloalkyl,  $(C_1-C_4)$  alkoxy,  $(C_1-C_4)$  alkyl,  $CF_3$ , carboxaldehyde,  $NH_2$ ,  $NH(C_1-C_6)$  alkyl,  $C_6$ ) alkyl ( $C_1$ - $C_6$ ) alkyl, OCF<sub>3</sub>; or 20  $R_6$ ,  $R_7$ , and the nitrogen to which they are attached morpholinyl, thiomorpholinyl, a piperidinyl, pyrrolidinyl, or piperazinyl ring which is optionally substituted with 1 or 2 groups that are independently C<sub>1</sub>-C<sub>4</sub> alkyl, hydroxy 25 hydroxy,  $C_1 - C_4$ alkyl,  $C_1 - C_4$ dihydroxyalkyl,  $C_1 - C_4$ alkoxycarbonyl, or halogen; and R4 is H, alkyl optionally substituted with one or two groups that independently CO<sub>2</sub>R, -CO<sub>2</sub>alkyl,  $-C(0)NR_6R_7$ are  $-C(O)R_6$ ,  $-N(R_{30})C(O)NR_{16}R_{17}$ ,  $-N(R_{30})C(O)-(C_1-C_6)alkoxy$ , or 30  $-NR_6R_7$ , arylalkoxy, heteroaryl, arylalkyl, hydroxyalkyl,

dihydroxyalkyl, haloalkyl,  $-NR_6R_7$ ,  $-C(0)NR_6R_7$ ,

alkoxy,

hydroxyalkoxy-,  $(R_6R_7N)$ -alkoxy-,  $R_6R_7NC(O)$ -alkoxy-,  $R_6C(O)N(R_7)$  alkoxy-, alkoxyalkyl, or alkoxyalkoxy, wherein the heteroaryl or aryl portions of the above are unsubstituted or substituted with 1, 2, 3, 4, or 5 groups that are independently halogen, hydroxy, alkoxy, alkyl,  $-CO_2-(C_1-C_6)$  alkyl,  $-CONR_6R_7$ ,  $-NR_6R_7$ ,  $R_6R_7N-(C_1-C_6)$  alkyl-, nitro, haloalkyl, or haloalkoxy; and

 $R_5$  is phenyl( $C_1$ - $C_6$ )alkyl, ( $C_1$ - $C_6$ )alkyl optionally substituted with 1, 2, 3, 4, or 5 groups that are independently 10 phenyl  $C_1-C_4$  alkoxycarbonyl,  $-NR_8R_9$ , halogen,  $-C(0)NR_8R_9$ , alkoxycarbonyl, or alkanoyl, phenyl, alkoxy, alkynyl,  $C_2$ - $C_6$  alkenyl optionally substituted with alkoxycarbonyl, indolyl, quinolinyl, isoquinolinyl, 15 isoindolyl, dihydroindolyl, pyrazolyl, imidazolyl, dihydroisoindolyl, indolon-2-yl, indazolyl, benzimidazolyl, pyridyl, imidazolidine dione, pyrazolyl  $(C_1-C_6 \quad alkyl)$ , imidazolyl(C<sub>1</sub>-C<sub>6</sub> alkyl), piperidinyl  $(C_1-C_6)$  alkyl, pyrrolidinyl  $(C_1-C_6)$  alkyl, imidazolidinyl  $(C_1-C_6)$  alkyl, tetrahydroisoguinolinyl(C<sub>1</sub>-20 1H-indazolyl (C<sub>1</sub>-C<sub>6</sub>) alkyl, dihydroindolon-2- $C_6$ ) alkyl,  $yl(C_1-C_6)$ alkyl), indolinyl  $(C_1 - C_6)$ alkyl), dihydrobenzimidazolyl(C<sub>1</sub>-C<sub>6</sub> alkyl), ordihydrobenzoimidazolonyl(C<sub>1</sub>-C<sub>6</sub> alkyl), pyridyl  $(C_1 - C_6)$ 25 alkyl, pyridazinyl (C<sub>1</sub>-C<sub>6</sub>) alkyl, pyrimidinyl  $(C_1 - C_6)$ alkyl, pyrazinyl  $(C_1 - C_6)$ alkyl, tetrahydrofuryl (C1- $C_6$ ) alkyl, naphthyl  $(C_1-C_6)$  alkyl, morpholinyl  $(C_1-C_6)$  alkyl, tetrahydrofuryl  $(C_1-C_6)$  alkyl, thienyl  $(C_1-C_6)$ alkyl, piperazinyl (C<sub>1</sub>-C<sub>6</sub>) alkyl, indolyl  $(C_1 - C_6)$ alkyl, quinolinyl( $C_1$ - $C_6$ ) alkyl, isoquinolinyl( $C_1$ - $C_6$ ) 30 alkyl, isoindolyl( $C_1$ - $C_6$ ) alkyl,  $dihydroindolyl(C_1-C_6)$ alkyl,  $pyrazolyl(C_1-C_4)$ alkyl,  $imidazolyl(C_1-C_4)$ alkyl, dihydroisoindolyl( $C_1-C_6$ ) alkyl, indoon-2-yl( $C_1-C_6$ ) alkyl,

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indolon-2-yl( $C_1$ - $C_6$ ) alkyl, or morpholinyl  $C_1$ - $C_6$  alkyl, wherein

each of the above is unsubstituted or substituted with 1, 2, 3, 4, or 5 groups that are independently  $C_1$ - $C_6$  alkyl, halogen,  $C_1$ - $C_6$  alkoxy, phenyl  $C_1$ - $C_6$  alkoxy,  $C_1$ - $C_6$  thioalkoxy,  $C_1$ - $C_6$  alkoxycarbonyl,  $CO_2R$ , CN,  $-SO_2(C_1$ - $C_6)$  alkyl, amidinooxime,  $NR_8R_9$ ,  $-NR_6R_7$ ,  $NR_6R_7$   $C_1$ - $C_6$  alkyl,  $-C(O)NR_6R_7$ ,  $-(C_1$ - $C_4)$  alkyl- $-C(O)NR_6R_7$ , amidino,  $C_1$ - $C_4$  haloalkyl, hydroxy  $C_1$ - $C_6$  alkyl,  $C_1$ - $C_6$  dihydroxyalkyl, or  $C_1$ - $C_4$  haloalkoxy; wherein

 $R_8$  is hydrogen,  $C_1$ - $C_6$  alkyl,  $C_1$ - $C_6$  alkanoyl, phenyl  $C_1$ - $C_6$  alkyl and phenyl  $C_1$ - $C_6$  alkanoyl; and

 $R_9$  is aminoalkyl, mono  $C_1\text{-}C_6$  alkylamino  $C_1\text{-}C_6$  alkyl, di  $C_1\text{-}C_6$  alkylamino  $C_1\text{-}C_6$  alkyl,  $C_1\text{-}C_6$  alkanoyl, phenyl  $C_1\text{-}C_6$  alkyl, indazolyl, and phenyl  $C_1\text{-}C_6$  alkanoyl.

- 4. A compound according to claim 3, wherein
- $R_1$  is H, halogen,  $C_1$ - $C_4$  alkyl optionally substituted with  $C_1$ - $C_4$  alkoxycarbonyl,  $C_2$ - $C_4$  alkenyl optionally substituted with  $C_1$ - $C_4$  alkoxycarbonyl,  $C_2$ - $C_4$  alkynyl, or carboxaldehyde;
- R<sub>2</sub> is benzyloxy, OH, phenyloxy, phenyloxy(C<sub>1</sub>-C<sub>6</sub>)alkyl, phenyl
   (C<sub>1</sub>-C<sub>4</sub>) thioalkoxy, or pyridyl; wherein each of the above
   is optionally substituted with 1, 2, 3, 4, or 5 groups
  25 that are independently halogen, -(C<sub>1</sub>-C<sub>6</sub>)alkyl-N(R)-CO<sub>2</sub>R<sub>30</sub>,
   NR<sub>6</sub>R<sub>7</sub>, -(C<sub>1</sub>-C<sub>4</sub>)alkyl-C(O)NR<sub>6</sub>R<sub>7</sub>, (C<sub>1</sub>-C<sub>4</sub>) haloalkyl,
   -C(O)NR<sub>6</sub>R<sub>7</sub>, -(C<sub>1</sub>-C<sub>4</sub> alkyl)-NRC(O)NR<sub>16</sub>R<sub>17</sub>, (C<sub>1</sub>-C<sub>4</sub>) haloalkoxy,
   hydroxyalkyl, C<sub>1</sub>-C<sub>6</sub> dihydroxyalkyl, (C<sub>1</sub>-C<sub>6</sub>) alkyl, pyridyl,
   or R<sub>6</sub>R<sub>7</sub>N-(C<sub>1</sub>-C<sub>6</sub> alkyl)-.

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- 5. A compound according to claim 4, wherein
- R<sub>5</sub> is indolyl, pyridyl, pyridazinyl, pyrimidinyl, indazolyl, tetrahydroquinolyl, tetrahydroisoquinolyl, pyrazolyl,

imidazolyl, furanyl, quinolinyl, isoquinolinyl, isoindolyl, dihydroindolyl, dihydroisoindolyl, indolon-2yl, or pyrazinyl, each of which is unsubstituted or substituted with 1, 2, 3, 4 or 5 groups that are 5 independently C<sub>1</sub>-C<sub>4</sub> alkyl, halogen, CF<sub>3</sub>, OCF<sub>3</sub>, -CO<sub>2</sub>CH<sub>3</sub>, C<sub>1</sub>- $C_4$  hydroxyalkyl, dihydroxyalkyl,  $C_1-C_4$  alkoxy,  $-CO_2(C_1-C_5)$ alkyl), benzyloxy,  $-NR_6R_7$ ,  $-(C_1-C_4)$  alkyl-C(0)  $NR_6R_7$ ,  $-NR_8R_9$ ,  $NR_6R_7$ -( $C_1$ - $C_4$  alkyl), -C(O) $NR_6R_7$ , or amidinooxime; wherein  $R_6$  and  $R_7$  are independently at each occurrence H,  $C_1$ - $C_4$ 10 alkyl, C<sub>1</sub>-C<sub>4</sub> hydroxyalkyl, C<sub>1</sub>-C<sub>4</sub> dihydroxyalkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy,  $C_1-C_4$  alkoxy  $C_1-C_4$  alkyl,  $C_1-C_4$  alkanoyl, phenyl C<sub>1</sub>-C<sub>4</sub> alkyl, phenyl C<sub>1</sub>-C<sub>4</sub> alkoxy, or phenyl C<sub>1</sub>alkanoyl, wherein each is unsubstituted substituted with 1, 2, or 3 groups that independently, halogen, OH, 15 SH, C<sub>3</sub>-C<sub>6</sub> cycloalkyl, aryl, C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>1</sub>-C<sub>4</sub> alkyl, OH, CF<sub>3</sub>, or OCF<sub>3</sub>; or  $R_6$ ,  $R_7$ , and the nitrogen to which they are attached form a morpholinyl, thiomorpholinyl, pyrrolidinyl, orpiperazinyl ring which is optionally substituted with 1 or 2 groups that are independently C1-C4 20 hydroxy, hydroxy alkyl,  $C_1 - C_4$ alkyl,  $C_1 - C_4$ dihydroxyalkyl, or halogen.

6. A compound according to claim 5, wherein
25 R<sub>5</sub> is indolyl, pyridyl, pyrimidinyl, pyrazolyl, furanyl, indazolyl, dihydroindolyl, dihydroisoindolyl, indolon-2-yl, or pyrazinyl, each of which is unsubstituted or substituted with 1, 2, 3, or 4 groups that are independently C<sub>1</sub>-C<sub>4</sub> alkyl, halogen, CF<sub>3</sub>, OCF<sub>3</sub>, -CO<sub>2</sub>CH<sub>3</sub>, C<sub>1</sub>-C<sub>4</sub> hydroxyalkyl, C<sub>1</sub>-C<sub>4</sub> dihydroxyalkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, -CO<sub>2</sub>(C<sub>1</sub>-C<sub>5</sub> alkyl), benzyloxy, -C(O)NR<sub>6</sub>R<sub>7</sub>, -NR<sub>8</sub>R<sub>9</sub>, -(C<sub>1</sub>-C<sub>4</sub>)alkyl-C(O)NR<sub>6</sub>R<sub>7</sub>, -NR<sub>6</sub>R<sub>7</sub>, NR<sub>6</sub>R<sub>7</sub>-(C<sub>1</sub>-C<sub>4</sub> alkyl)-, and amidinooxime.

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- 7. A compound according to claim 6, wherein
- R<sub>5</sub> is indolyl, pyridyl, pyrimidinyl, dihydroindolyl, dihydroisoindolyl, pyrazolyl, or pyrazinyl, each of which is unsubstituted or substituted with 1, 2, 3, or 4 groups that are independently C<sub>1</sub>-C<sub>4</sub> alkyl, halogen, CF<sub>3</sub>, OCF<sub>3</sub>, -CO<sub>2</sub>CH<sub>3</sub>, C<sub>1</sub>-C<sub>4</sub> hydroxyalkyl, C<sub>1</sub>-C<sub>4</sub> dihydroxyalkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, -CO<sub>2</sub>(C<sub>1</sub>-C<sub>5</sub> alkyl), benzyloxy, -C(O)NR<sub>6</sub>R<sub>7</sub>, NR<sub>8</sub>R<sub>9</sub>, (C<sub>1</sub>-C<sub>4</sub>)alkyl-C(O)NR<sub>6</sub>R<sub>7</sub>, -NR<sub>6</sub>R<sub>7</sub>, NR<sub>6</sub>R<sub>7</sub>-(C<sub>1</sub>-C<sub>4</sub> alkyl)-, or amidinooxime; wherein
- R<sub>6</sub> and R<sub>7</sub> are independently at each occurrence H, C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> hydroxyalkyl, C<sub>1</sub>-C<sub>4</sub> dihydroxyalkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>1</sub>-C<sub>4</sub> alkanoyl, C<sub>1</sub>-C<sub>4</sub> alkoxy C<sub>1</sub>-C<sub>4</sub> alkyl, each of which is optionally substituted with 1, 2, or 3 groups that are independently halogen, OH, SH, C<sub>3</sub>-C<sub>6</sub> cycloalkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>1</sub>-C<sub>4</sub> alkyl, OH, CF<sub>3</sub>, or OCF<sub>3</sub>.
  - 8. A compound according to claim 7, wherein
- - R<sub>6</sub> and R<sub>7</sub> are independently at each occurrence H, C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> hydroxyalkyl, C<sub>1</sub>-C<sub>4</sub> dihydroxyalkyl, C<sub>1</sub>-C<sub>4</sub> alkanoyl, or C<sub>1</sub>-C<sub>4</sub> alkoxy, each of which is optionally substituted with 1, 2, or 3 groups that are independently halogen, OH, SH, C<sub>3</sub>-C<sub>6</sub> cycloalkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>1</sub>-C<sub>4</sub> alkyl, OH, CF<sub>3</sub>, or OCF<sub>3</sub>.

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- 9. A compound according to claim 4, wherein

  R<sub>5</sub> is phenyl, phenyl(C<sub>1</sub>-C<sub>6</sub>)alkyl, or (C<sub>1</sub>-C<sub>6</sub>)alkyl, wherein

  each of the above is unsubstituted or substituted with 1,

  2, 3, 4, or 5 groups that are independently alkyl,

  halogen, alkoxy, benzyloxy, hydroxyalkyl,

  dihydroxyalkyl, thioalkoxy, -CO<sub>2</sub>(C<sub>1</sub>-C<sub>5</sub> alkyl), CO<sub>2</sub>R,

  CN, amidinooxime, -NR<sub>8</sub>R<sub>9</sub>, -NR<sub>6</sub>R<sub>7</sub>, R<sub>6</sub>R<sub>7</sub>N-(C<sub>1</sub>-C<sub>6</sub> alkyl)-,

  -C(O)NR<sub>6</sub>R<sub>7</sub>, -(C<sub>1</sub>-C<sub>4</sub>)alkyl-C(O)NR<sub>6</sub>R<sub>7</sub>, amidino, CF<sub>3</sub>, or

  OCF<sub>3</sub>;
- 10 R<sub>8</sub> is hydrogen, C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>1</sub>-C<sub>6</sub> alkanoyl, phenyl C<sub>1</sub>-C<sub>6</sub> alkyl and phenyl C<sub>1</sub>-C<sub>6</sub> alkanoyl; and
  R<sub>9</sub> is aminoalkyl, mono C<sub>1</sub>-C<sub>6</sub> alkylamino C<sub>1</sub>-C<sub>6</sub> alkyl, di C<sub>1</sub>-C<sub>6</sub> alkylamino C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>1</sub>-C<sub>6</sub> alkanoyl, phenyl C<sub>1</sub>-C<sub>4</sub> alkyl, indazolyl, and phenyl C<sub>1</sub>-C<sub>4</sub>
  - 10. A compound according to claim 4, wherein

alkanoyl.

- R<sub>5</sub> is phenyl or phenyl(C<sub>1</sub>-C<sub>6</sub>)alkyl, each of which is unsubstituted or substituted with 1, 2, 3, 4, or 5 groups that are independently alkyl, halogen, alkoxy, benzyloxy, thioalkoxy, -CO<sub>2</sub>(C<sub>1</sub>-C<sub>5</sub> alkyl), CO<sub>2</sub>R, CN, amidinooxime, -NR<sub>8</sub>R<sub>9</sub>, -NR<sub>6</sub>R<sub>7</sub>, R<sub>6</sub>R<sub>7</sub>N-(C<sub>1</sub>-C<sub>6</sub> alkyl)-, -C(O)NR<sub>6</sub>R<sub>7</sub>, -(C<sub>1</sub>-C<sub>4</sub>)-C(O)NR<sub>6</sub>R<sub>7</sub>, amidino, CF<sub>3</sub>, or OCF<sub>3</sub>; wherein
  - R<sub>6</sub> and R<sub>7</sub> are independently at each occurrence H, C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> hydroxyalkyl, C<sub>1</sub>-C<sub>4</sub> dihydroxyalkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>1</sub>-C<sub>4</sub> alkoxy C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> alkanoyl, phenyl C<sub>1</sub>-C<sub>4</sub> alkyl, phenyl C<sub>1</sub>-C<sub>4</sub> alkoxy, or phenyl C<sub>1</sub>-C<sub>4</sub> alkanoyl, wherein each is unsubstituted or substituted with 1, 2, or 3 groups that are independently, halogen, OH, SH, C<sub>3</sub>-C<sub>6</sub> cycloalkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>1</sub>-C<sub>4</sub> alkyl, CF<sub>3</sub>, or OCF<sub>3</sub>; or
  - $R_6,\ R_7,$  and the nitrogen to which they are attached form a morpholinyl, thiomorpholinyl, or piperazinyl ring

which is optionally substituted with 1 or 2 groups that are independently  $C_1$ - $C_4$  alkyl, hydroxy, hydroxy  $C_1$ - $C_4$  alkyl,  $C_1$ - $C_4$  dihydroxyalkyl, or halogen;

- $R_8$  is hydrogen,  $C_1$ - $C_6$  alkyl,  $C_1$ - $C_6$  alkanoyl, phenyl  $C_1$ - $C_6$  alkyl and phenyl  $C_1$ - $C_6$  alkanoyl; and
- $R_9$  is aminoalkyl, mono  $C_1$ - $C_6$  alkylamino  $C_1$ - $C_6$  alkyl, di  $C_1$ - $C_6$  alkylamino  $C_1$ - $C_6$  alkyl,  $C_1$ - $C_6$  alkyl,  $C_1$ - $C_6$  alkanoyl, phenyl  $C_1$ - $C_4$  alkyl, indazolyl, and phenyl  $C_1$ - $C_4$  alkanoyl.

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- A compound according to claim 10, wherein  $R_5$  is phenyl, benzyl or phenethyl, wherein each is optionally substituted with 1, 2, 3, 4, or 5 groups that are independently  $C_1$ - $C_6$  alkyl, -NR<sub>6</sub>R<sub>7</sub>, -C(0)NR<sub>6</sub>R<sub>7</sub>, -( $C_1$ - $C_4$ alkyl)-C(O)NR<sub>6</sub>R<sub>7</sub>, -NR<sub>8</sub>R<sub>9</sub>, halogen,  $C_1$ - $C_6$  alkoxy,  $CO_2R$ , -( $C_1$ -15 C<sub>4</sub> alkyl)-CO<sub>2</sub>R, C<sub>1</sub>-C<sub>6</sub> thioalkoxy, amidinooxime, C<sub>1</sub>-C<sub>6</sub> alkoxycarbonyl,  $-(C_1-C_4 \text{ alkyl})-C_1-C_6 \text{ alkoxycarbonyl}, C_1-C_6$ hydroxyalkyl, C<sub>1</sub>-C<sub>6</sub> dihydroxyalkyl, -(C<sub>1</sub>-C<sub>4</sub> alkyl)-CN, CN, phenyl  $C_1$ - $C_6$  alkoxy, OH,  $C_1$ - $C_4$  haloalkyl,  $C_1$ - $C_4$  haloalkoxy, 20  $R_6R_7N - (C_1 - C_6 \text{ alkyl}) - , - (C_1 - C_4 \text{ alkyl}) - NR_{15}C(0)R_{18},$ amidinooxime,  $-SO_2(C_1-C_6 \text{ alkyl})$ ,  $-O-CH_2-O-$ ,  $-O-CH_2CH_2-O-$ , phenyl C<sub>1</sub>-C<sub>4</sub> alkoxy, or phenyl; wherein  $R_6$  and  $R_7$  are independently at each occurrence H,  $C_1$ - $C_4$ alkyl, C<sub>1</sub>-C<sub>4</sub> hydroxyalkyl, C<sub>1</sub>-C<sub>4</sub> dihydroxyalkyl, C<sub>1</sub>-C<sub>4</sub> 25 alkanoyl, or C<sub>1</sub>-C<sub>4</sub> alkoxy, each of which is optionally substituted with 1, 2, or 3 groups that are independently halogen, OH, SH, C3-C6 cycloalkyl,  $C_1-C_4$  alkoxy,  $C_1-C_4$  alkyl, OH,  $CF_3$ , or  $OCF_3$ .
- 12. A compound according to claim 11, wherein  $R_5$  is phenyl, benzyl or phenethyl, each of which is unsubstituted or substituted with 1, 2, 3, 4, or 5 groups that are independently CN, halogen,  $C_1$ - $C_4$  alkoxy,  $CF_3$ ,

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OCF<sub>3</sub>,  $C_1$ - $C_4$  alkyl, -NR<sub>8</sub>R<sub>9</sub>, -NR<sub>6</sub>R<sub>7</sub>, R<sub>6</sub>R<sub>7</sub>N-( $C_1$ - $C_6$  alkyl)-, or -C(0)NR<sub>6</sub>R<sub>7</sub>, wherein

R<sub>6</sub> and R<sub>7</sub> are independently at each occurrence H, C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> hydroxyalkyl, C<sub>1</sub>-C<sub>4</sub> dihydroxyalkyl, C<sub>1</sub>-C<sub>4</sub> alkanoyl, or C<sub>1</sub>-C<sub>4</sub> alkoxy, each of which is optionally substituted with 1, 2, or 3 groups that are independently halogen, OH, SH, C<sub>3</sub>-C<sub>6</sub> cycloalkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>1</sub>-C<sub>4</sub> alkyl, OH, CF<sub>3</sub>, or OCF<sub>3</sub>.

10 13. A compound according to claim 4, wherein the  $R_5$  group is of the formula:

$$z_1$$
 or  $z_2$ 

wherein

 $Z_1$  and  $Z_2$  are independently H, halogen,  $C_1\text{-}C_4$  alkyl, or  $CO_2R$ ; and

Z is  $-C(O)NR_6R_7$ ,  $-(C_1-C_4)alkyl-C(O)NR_6R_7$ ,  $-(C_1-C_4)alkyl-C(O)NR_6R_7$ ,  $-(C_1-C_4)alkyl-C(O)NR_6R_7$ ,  $-NR_6R_7$ ,

20  $R_6$  and  $R_7$  at each occurrence are independently H, OH,  $C_1$ - $C_6$ alkyl, amino  $C_1-C_4$  alkyl,  $NH(C_1-C_6$  alkyl) alkyl,  $N(C_1-C_6)$  $C_6$  alkyl) ( $C_1$ - $C_6$  alkyl)  $C_1$ - $C_6$  alkyl,  $C_1$ - $C_6$  hydroxyalkyl,  $C_1$ - $C_6$  dihydroxyalkyl,  $C_1$ - $C_6$  alkoxy  $C_1$ - $C_6$  alkyl, or -SO<sub>2</sub> (C<sub>1</sub>-C<sub>6</sub> alkyl) each of which is optionally substituted with 1, 2, or 3 groups that are 25 independently halogen, OH, SH, C3-C6 cycloalkyl, C1-C4 alkoxy, C<sub>1</sub>-C<sub>4</sub> alkyl, OH, CF<sub>3</sub>, or OCF<sub>3</sub>;

or

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 $R_6$ ,  $R_7$ , and the nitrogen to which they are attached form a piperidinyl, pyrrolidinyl, piperazinyl, or a

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morpholinyl, thiomorpholinyl, ring optionally substituted with 1 or 2 groups that are independently alkyl, hydroxy, hydroxy  $C_1$ - $C_4$  alkyl,  $C_1$ - $C_4$  dihydroxyalkyl, or halogen; and

 $R_{18}$  is  $C_1$ - $C_6$  alkyl optionally substituted with -O-( $C_2$ - $C_6$  alkanoyl,  $C_1$ - $C_6$  hydroxyalkyl,  $C_1$ - $C_4$  dihydroxyalkyl,  $C_1$ - $C_6$  alkoxy,  $C_1$ - $C_6$  alkoxy  $C_1$ - $C_6$  alkyl, amino  $C_1$ - $C_6$  alkyl, mono or dialkylamino  $C_1$ - $C_6$  alkyl.

10 14. A compound according to claim 4, wherein

alkyl),  $imidazolyl(C_1-C_6)$  $R_5$ pyrazolyl(C<sub>1</sub>-C<sub>6</sub> thienyl( $C_1$ - $C_6$  alkyl), furanyl( $C_1$ - $C_6$  alkyl), piperidinyl( $C_1$ pyrrolidinyl $(C_1-C_6)$ alkyl,  $C_6$ ) alkyl,  $imidazolidinyl(C_1$ piperazinyl  $(C_1-C_6)$  alkyl, pyridyl  $(C_1-C_6)$  alkyl,  $C_6$ ) alkyl,  $pyrimidyl(C_1-C_6)alkyl, pyridazyl(C_1-C_6)alkyl, pyrazinyl(C_1-C_6)alkyl, pyrazinyl(C_1-C_6)a$  $C_6$ ) alkyl, isoquinolinyl  $(C_1-C_6)$  alkyl, tetrahydroisoquinolinyl  $(C_1-C_6)$  alkyl, indolyl  $(C_1-C_6)$  alkyl, 1H-indazolyl ( $C_1$ - $C_6$ ) alkyl, dihydroindolyl (C<sub>1</sub>-C<sub>6</sub> dihydroindolon-2-yl( $C_1$ - $C_6$  alkyl), indolinyl( $C_1$ - $C_6$  alkyl), dihydroisoindolyl ( $C_1$ - $C_6$  alkyl), dihydrobenzimdazolyl ( $C_1$ - $C_6$ alkyl), or dihydrobenzoimidazolonyl(C<sub>1</sub>-C<sub>6</sub> alkyl), wherein each of the above is unsubstituted or substituted with 1, 2, 3, 4, or 5 groups that are independently  $(C_1-$ 

> $C_4$  alkyl)-NR<sub>15</sub>C(O)NR<sub>16</sub>R<sub>17</sub>, -( $C_1$ - $C_4$  alkyl)-NR<sub>15</sub>C(O)R<sub>18</sub>, -O-CH<sub>2</sub>-O, -O-CH<sub>2</sub>CH<sub>2</sub>-O-, or ( $C_1$ - $C_4$ )haloalkoxy; wherein

> $C_6$ ) alkyl, halogen,  $(C_1-C_6)$  alkoxy,  $(C_1-C_6)$  hydroxyalkyl,

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	$R_6$ and $R_7$ are independently at each occurrence H,
	$(C_1-C_6)$ alkyl, $(C_1-C_6)$ alkoxy, $(C_1-C_6)$ alkoxy $(C_1-C_6)$
	$C_6$ ) alkyl, $(C_1-C_6)$ alkoxycarbonyl, $(C_1-C_6)$
	$C_6$ ) hydroxyalkyl, $C_1$ - $C_6$ dihydroxyalkyl, - $(C_1$ -
5	$C_4$ ) alkyl- $CO_2$ - $(C_1$ - $C_6$ ) alkyl, $(C_1$ - $C_6$ ) alkanoyl,
	phenyl( $C_1-C_6$ ) alkyl, phenyl( $C_1-C_6$ ) alkoxy, or
	phenyl( $C_1$ - $C_6$ )alkanoyl, wherein each of the above
	is unsubstituted or substituted with 1, 2, or 3
	groups that are independently, halogen, $(C_1-$
10	$C_4$ ) alkoxy, OH, SH, $C_3$ - $C_6$ cycloalkyl, NH <sub>2</sub> , NH( $C_1$ -
	$C_6$ alkyl), $N(C_1-C_6$ alkyl)( $C_1-C_6$ alkyl), ( $C_1-C_6$
	C <sub>4</sub> )alkyl, CF <sub>3</sub> or OCF <sub>3</sub> ; or
	$R_6$ , $R_7$ , and the nitrogen to which they are attached
	form a morpholinyl, thiomorpholinyl,
15	piperidinyl, pyrrolidinyl, or piperazinyl ring
	which is optionally substituted with 1 or 2
	groups that are independently $C_1$ - $C_4$ alkyl,
	hydroxy, hydroxy $C_1-C_4$ alkyl, $C_1-C_4$
	dihydroxyalkyl, or halogen; and
20	$R_{18}$ is $C_1$ - $C_6$ alkyl optionally substituted with -O-( $C_2$ -
	$C_6$ alkanoyl, $C_1$ - $C_6$ hydroxyalkyl, $C_1$ - $C_6$
	dihydroxyalkyl, $C_1$ - $C_6$ alkoxy, $C_1$ - $C_6$ alkoxy $C_1$ - $C_6$
	alkyl; amino C <sub>1</sub> -C <sub>6</sub> alkyl, mono or dialkylamino
	C <sub>1</sub> -C <sub>6</sub> alkyl,
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_	15. A compound according to claim 14, wherein
R <sub>5</sub>	is pyrazolyl(C <sub>1</sub> -C <sub>6</sub> alkyl), imidazolyl(C <sub>1</sub> -C <sub>6</sub> alkyl),
	benzimidazolyl( $C_1-C_6$ alkyl), thienyl( $C_1-C_6$ alkyl),
	pyrimidyl( $C_1-C_6$ ) alkyl, indolyl( $C_1-C_6$ alkyl),
30	dihydroindolyl (C <sub>1</sub> -C <sub>6</sub> alkyl), dihydroisoindolyl (C <sub>1</sub> -C <sub>6</sub>
	alkyl), dihydroindolon-2-yl(C <sub>1</sub> -C <sub>6</sub> alkyl), pyridinyl(C <sub>1</sub> -C <sub>6</sub>
	alkyl), piperazinyl(C <sub>1</sub> -C <sub>6</sub> alkyl), or pyrazinyl(C <sub>1</sub> -C <sub>6</sub> alkyl)
	each of which is optionally substituted with 1, 2, or 3

groups that are independently  $C_1-C_4$  alkyl,  $C_1-C_4$  hydroxyalkyl,  $C_1-C_4$  dihydroxyalkyl, halogen,  $-C(0)NR_6R_7$ ,  $-(C_1-C_4)$  alkyl)  $-C(0)NR_6R_7$ ,  $C_1-C_6$  alkoxycarbonyl,  $-NR_6R_7$ ,  $R_6R_7N-(C_1-C_6)$  alkyl) -, haloalkyl,  $C_1-C_6$  alkanoyl,

R<sub>6</sub> and R<sub>7</sub> at each occurrence are independently H, C<sub>1</sub>-C<sub>6</sub> alkyl optionally substituted with 1, 2, or 3 groups that are independently C<sub>1</sub>-C<sub>4</sub> alkoxycarbonyl, halogen, C<sub>3</sub>-C<sub>6</sub> cycloalkyl, OH, SH, or C<sub>1</sub>-C<sub>4</sub> alkoxy;

or

10 R<sub>6</sub>, R<sub>7</sub>, and the nitrogen to which they are attached form a piperidinyl, pyrrolidinyl, piperazinyl, or a morpholinyl ring optionally substituted with 1 or 2 groups that are independently alkyl, hydroxy, hydroxy C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> dihydroxyalkyl, or halogen.

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16. A compound according to claim 15, wherein  $\ensuremath{R_5}$  is of the formula:

wherein

Z<sub>5</sub> is  $C_1$ - $C_4$  alkyl,  $C_1$ - $C_4$  hydroxyalkyl,  $C_1$ - $C_4$  dihydroxyalkyl, halogen,  $-C(O)NR_6R_7$ ,  $-(C_1$ - $C_4$  alkyl)- $C(O)NR_6R_7$ ,  $C_1$ - $C_6$  alkoxycarbonyl,  $R_6R_7N$ - $(C_1$ - $C_6$  alkyl)-,  $-NR_6R_7$ ,  $CF_3$ , or  $C_1$ - $C_6$  alkanoyl, wherein

 $R_6$  and  $R_7$  at each occurrence are independently H,  $C_1$ - $C_6$  alkyl optionally substituted with 1, 2, or 3 groups that are independently  $C_1$ - $C_4$  alkoxycarbonyl, halogen,  $C_3$ - $C_6$  cycloalkyl, OH, SH, or  $C_1$ - $C_4$  alkoxy;

or

R<sub>6</sub>, R<sub>7</sub>, and the nitrogen to which they are attached form a piperidinyl, pyrrolidinyl, piperazinyl, or a morpholinyl ring optionally substituted with 1 or 2

groups that are independently alkyl, hydroxy, hydroxy  $C_1$ - $C_4$  alkyl,  $C_1$ - $C_4$  dihydroxyalkyl, or halogen.

17. A compound according to claim 15, wherein  $R_5$  is of the formula:

$$Z_{5}$$

wherein

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 $Z_5 \quad \text{is } C_1-C_4 \quad \text{alkyl}, \quad C_1-C_4 \quad \text{hydroxyalkyl}, \quad C_1-C_4 \quad \text{dihydroxyalkyl}, \\ \quad \text{halogen,} \quad -\text{C(O)NR}_6\text{R}_7, \quad -\left(C_1-C_4 \quad \text{alkyl}\right)-\text{C(O)NR}_6\text{R}_7, \quad C_1-C_6 \\ \quad \text{alkoxycarbonyl,} \quad R_6\text{R}_7\text{N-}\left(C_1-C_6 \quad \text{alkyl}\right)-, \quad -\text{NR}_6\text{R}_7, \quad \text{CF}_3, \quad \text{or } C_1-C_6 \\ \quad \text{alkanoyl, wherein}$ 

 $R_6$  and  $R_7$  at each occurrence are independently H,  $C_1$ - $C_6$  alkyl optionally substituted with 1, 2, or 3 groups that are independently  $C_1$ - $C_4$  alkoxycarbonyl, halogen,  $C_3$ - $C_6$  cycloalkyl, OH, SH, or  $C_1$ - $C_4$  alkoxy;

or

- $R_6$ ,  $R_7$ , and the nitrogen to which they are attached form a piperidinyl, pyrrolidinyl, piperazinyl, or a morpholinyl ring optionally substituted with 1 or 2 groups that are independently alkyl, hydroxy, hydroxy  $C_1$ - $C_4$  alkyl,  $C_1$ - $C_4$  dihydroxyalkyl, or halogen.
- 18. A compound according to claim 16, wherein 25  $Z_5$  is  $C_1$ - $C_4$  alkyl,  $C_1$ - $C_4$  hydroxyalkyl,  $C_1$ - $C_4$  dihydroxyalkyl, halogen,  $C_1$ - $C_6$  alkoxycarbonyl,  $CF_3$ , or  $C_1$ - $C_6$  alkanoyl.
- 19. A compound according to claim 16, wherein  $Z_5 \text{ is } C_1\text{-}C_4 \text{ alkyl}, \text{-}C(O)\,NR_6R_7, \text{-}(C_1\text{-}C_4 \text{ alkyl})\text{-}C(O)\,NR_6R_7, R_6R_7N\text{-}(C_1\text{-}30) \\ C_6 \text{ alkyl}, \text{-}, \text{ or } \text{-}NR_6R_7, \text{ CF}_3, \text{ or } C_1\text{-}C_4 \text{ alkanoyl}, \text{ wherein}$

 $R_6$  and  $R_7$  at each occurrence are independently H,  $C_1$ - $C_6$  alkyl optionally substituted with 1, 2, or 3 groups that are independently  $C_1$ - $C_4$  alkoxycarbonyl, halogen,  $C_3$ - $C_6$  cycloalkyl, OH, SH, or  $C_1$ - $C_4$  alkoxy;

5 or

R<sub>6</sub>, R<sub>7</sub>, and the nitrogen to which they are attached form a piperidinyl, pyrrolidinyl, piperazinyl, or a morpholinyl ring optionally substituted with 1 or 2 groups that are independently alkyl, hydroxy, hydroxy C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> dihydroxyalkyl, or halogen.

20. A compound according to claim 19, wherein

 $Z_5 \text{ is } -C(O)\,NR_6R_7, -(C_1-C_4 \text{ alkyl}) -C(O)\,NR_6R_7, \ R_6R_7N-(C_1-C_6 \text{ alkyl}) -, \\ \text{or } -NR_6R_7, \text{ wherein}$ 

 $R_6$  and  $R_7$  at each occurrence are independently H,  $C_1$ - $C_6$  alkyl optionally substituted with 1, 2, or 3 groups that are independently  $C_1$ - $C_4$  alkoxycarbonyl, halogen, cyclopropyl, OH, SH, or  $C_1$ - $C_4$  alkoxy.

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21. A compound according to claim 15, wherein

$$Z_{10}$$
 $N$ 
 $Z_{20}$  wherein

 $R_5$  is of the formula:

 $Z_{10}$  is H or methyl; and

Z<sub>20</sub> is hydroxy( $C_1$ - $C_4$ )alkyl,  $C_1$ - $C_4$  dihydroxyalkyl, OH, halogen, haloalkyl, ( $C_1$ - $C_4$ )alkyl, OCF<sub>3</sub>, -NR<sub>6</sub>R<sub>7</sub>, R<sub>6</sub>R<sub>7</sub>N-( $C_1$ - $C_6$  alkyl)-, -( $C_1$ - $C_4$  alkyl)-C(O)NR<sub>6</sub>R<sub>7</sub>, or -C(O)NR<sub>6</sub>R<sub>7</sub>, wherein

 $R_6$  and  $R_7$  at each occurrence are independently H,  $C_1$ - $C_6$  alkyl optionally substituted with 1, 2, or 3 groups

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that are independently  $C_1$ - $C_4$  alkoxycarbonyl, halogen,  $C_3$ - $C_6$  cycloalkyl, OH, SH, or  $C_1$ - $C_4$  alkoxy.

22. A compound according to claim 15, wherein

$$Z_{10}$$
 $N$ 
 $Z_{20}$  wherein

5  $R_5$  is of the formula:

 $Z_{10}$  is H or methyl; and

$$\begin{split} Z_{20} \quad &\text{is hydroxy}(C_1\text{-}C_4)\,\text{alkyl}, \quad C_1\text{-}C_4 \quad \text{dihydroxyalkyl}, \quad \text{OH}, \\ &\text{halogen}, \quad CF_3, \quad (C_1\text{-}C_4)\,\text{alkyl}, \quad \text{OCF}_3, \quad -\text{NR}_6R_7, \quad R_6R_7\text{N-}(C_1\text{-}C_6\\ &\text{alkyl})\text{-}, \quad -(C_1\text{-}C_4 \; \text{alkyl})\text{-}C(0)\,\text{NR}_6R_7, \quad \text{or } \text{-}C(0)\,\text{NR}_6R_7, \quad \text{wherein} \\ &R_6 \; \text{and} \; R_7 \; \text{at each occurrence are independently H, } &C_1\text{-}C_6\\ &\text{alkyl optionally substituted with 1, 2, or 3 groups} \\ &\text{that are independently } &C_1\text{-}C_4 \; \text{alkoxycarbonyl, halogen,} \end{split}$$

23. A compound according to claim 15, wherein

C<sub>3</sub>-C<sub>6</sub> cycloalkyl, OH, SH, or C<sub>1</sub>-C<sub>4</sub> alkoxy.

$$Z_{10}$$
 $N$ 
 $Z_{20}$  where

 $R_5$  is of the formula:

 $Z_{10}$  is H or methyl; and

$$\begin{split} Z_{20} \quad &\text{is} \quad \text{hydroxy}(C_1\text{-}C_4)\,\text{alkyl}\,, \quad C_1\text{-}C_4 \quad \text{dihydroxyalkyl}\,, \quad \text{OH}\,, \\ &\text{halogen}, \quad \text{haloalkyl}\,, \quad (C_1\text{-}C_4)\,\text{alkyl}\,, \quad \text{OCF}_3\,, \quad \text{-NR}_6R_7\,, \quad R_6R_7N\text{-}\,(C_1\text{-}C_6\,\\ &\text{alkyl})\text{-}\,, \qquad \qquad -(C_1\text{-}C_4 \quad \text{alkyl})\text{-}C\,(\text{O})\,\text{NR}_6R_7\,, \quad \text{or} \quad \text{-}C\,(\text{O})\,\text{NR}_6R_7\,, \\ &\text{wherein} \end{split}$$

 $R_6$  and  $R_7$  at each occurrence are independently H,  $C_1$ - $C_6$  alkyl optionally substituted with 1, 2, or 3 groups that are independently  $C_1$ - $C_4$  alkoxycarbonyl, halogen,  $C_3$ - $C_6$  cycloalkyl, OH, SH, or  $C_1$ - $C_4$  alkoxy.

24. A compound according to claim 15, wherein

Z<sub>10</sub> N Z<sub>20</sub>

R<sub>5</sub> is of the formula:

Z<sub>10</sub> is H or methyl; and

Z<sub>20</sub> is hydroxy(C<sub>1</sub>-C<sub>4</sub>)alkyl, C<sub>1</sub>-C<sub>4</sub> dihydroxyalkyl, OH, halogen, CF<sub>3</sub>, (C<sub>1</sub>-C<sub>4</sub>)alkyl, OCF<sub>3</sub>, -NR<sub>6</sub>R<sub>7</sub>, R<sub>6</sub>R<sub>7</sub>N-(C<sub>1</sub>-C<sub>6</sub> alkyl)-, -(C<sub>1</sub>-C<sub>4</sub> alkyl)-C(O)NR<sub>6</sub>R<sub>7</sub>, or -C(O)NR<sub>6</sub>R<sub>7</sub>, wherein R<sub>6</sub> and R<sub>7</sub> at each occurrence are independently H, C<sub>1</sub>-C<sub>6</sub> alkyl optionally substituted with 1, 2, or 3 groups that are independently C<sub>1</sub>-C<sub>4</sub> alkoxycarbonyl, halogen, C<sub>3</sub>-C<sub>6</sub> cycloalkyl, OH, SH, or C<sub>1</sub>-C<sub>4</sub> alkoxy.

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25. A compound according to claim 15, wherein

$$Z_{10}$$
 $Z_{20}$  wherein

 $R_5$  is of the formula:

Z<sub>10</sub> is H or methyl; and

$$\begin{split} Z_{20} \quad &\text{is hydroxy}(C_1-C_4)\,\text{alkyl}, \quad C_1-C_4 \quad dihydroxyalkyl, \quad \text{OH}, \\ &\text{halogen, haloalkyl}, \quad (C_1-C_4)\,\text{alkyl}, \quad \text{OCF}_3, \quad -\text{NR}_6R_7, \quad R_6R_7\text{N-}(C_1-C_6 \quad \text{alkyl})-, \\ &\quad -(C_1-C_4 \quad \text{alkyl})-C(O)\,\text{NR}_6R_7, \quad \text{or} \quad -C(O)\,\text{NR}_6R_7, \\ &\text{wherein} \end{split}$$

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 $R_6$  and  $R_7$  at each occurrence are independently H,  $C_1$ - $C_6$  alkyl optionally substituted with 1, 2, or 3 groups that are independently  $C_1$ - $C_4$  alkoxycarbonyl, halogen,  $C_3$ - $C_6$  cycloalkyl, OH, SH, or  $C_1$ - $C_4$  alkoxy.

26. A compound according to claim 15, wherein

$$Z_{20}$$
, whereir

 $R_5$  is of the formula:

 $Z_{10}$  is H or methyl; and

Z<sub>20</sub> is hydroxy( $C_1$ - $C_4$ )alkyl,  $C_1$ - $C_4$  dihydroxyalkyl, OH, halogen,  $CF_3$ , ( $C_1$ - $C_4$ )alkyl, OCF<sub>3</sub>, -NR<sub>6</sub>R<sub>7</sub>, R<sub>6</sub>R<sub>7</sub>N-( $C_1$ - $C_6$  alkyl)-, -( $C_1$ - $C_4$  alkyl)-C(O)NR<sub>6</sub>R<sub>7</sub>, or -C(O)NR<sub>6</sub>R<sub>7</sub>, wherein R<sub>6</sub> and R<sub>7</sub> at each occurrence are independently H, C<sub>1</sub>-C<sub>6</sub> alkyl optionally substituted with 1, 2, or 3 groups that are independently C<sub>1</sub>-C<sub>4</sub> alkoxycarbonyl, halogen,  $C_3$ -C<sub>6</sub> cycloalkyl, OH, SH, or C<sub>1</sub>-C<sub>4</sub> alkoxy.

### 27. A compound according to claim 15, wherein

$$Z_{10}$$
 $Z_{20}$  where

10  $R_5$  is of the formula:

 $Z_{10}$  is H or methyl; and

$$\begin{split} Z_{20} \quad &\text{is} \quad \text{hydroxy}\,(C_1-C_4)\,\text{alkyl}\,, \quad C_1-C_4 \quad dihydroxyalkyl\,, \quad OH\,, \\ &\text{halogen}\,, \quad \text{haloalkyl}\,, \quad (C_1-C_4)\,\text{alkyl}\,, \quad OCF_3\,, \quad -NR_6R_7\,, \quad R_6R_7N-\left(C_1-C_6\right)\\ &\text{alkyl}\,, \quad -\left(C_1-C_4 \quad \text{alkyl}\right)-C\left(O\right)NR_6R_7\,, \quad \text{or} \quad -C\left(O\right)NR_6R_7\,, \end{split}$$

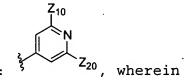
15 wherein

 $R_6$  and  $R_7$  at each occurrence are independently H,  $C_1$ - $C_6$  alkyl optionally substituted with 1, 2, or 3 groups that are independently  $C_1$ - $C_4$  alkoxycarbonyl, halogen,  $C_3$ - $C_6$  cycloalkyl, OH, SH, or  $C_1$ - $C_4$  alkoxy.

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### 28. A compound according to claim 15, wherein



R<sub>5</sub> is of the formula:

 $Z_{10}$  is H or methyl; and

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independently  $C_1$ - $C_4$  alkoxycarbonyl, halogen,  $C_3$ - $C_6$  cycloalkyl, OH, SH, or  $C_1$ - $C_4$  alkoxy.

29. A compound according to claim 4, wherein

5 R<sub>5</sub> is phenyl, which is optionally substituted with 1, 2, 3, 4, or 5 groups that are independently C<sub>1</sub>-C<sub>4</sub> alkyl, -C(O)NR<sub>6</sub>R<sub>7</sub>, -(C<sub>1</sub>-C<sub>4</sub> alkyl)-C(O)NR<sub>6</sub>R<sub>7</sub>, -NR<sub>6</sub>R<sub>7</sub>, NR<sub>6</sub>R<sub>7</sub>(C<sub>1</sub>-C<sub>6</sub> alkyl), C<sub>1</sub>-C<sub>6</sub> hydroxyalkyl, dihydroxyalkyl, halogen, C<sub>1</sub>-C<sub>4</sub> alkoxy, CO<sub>2</sub>R, OH, C<sub>1</sub>-C<sub>6</sub> alkoxycarbonyl, CF<sub>3</sub>, -(C<sub>1</sub>-C<sub>4</sub> alkyl)-NR<sub>15</sub>C(O)NR<sub>16</sub>R<sub>17</sub>, -(C<sub>1</sub>-C<sub>4</sub> alkyl)-NR<sub>15</sub>C(O)R<sub>18</sub>; wherein

 $R_{15}$  is H or  $C_1$ - $C_6$  alkyl;

 $R_{16}$  and  $R_{17}$  are independently H or  $C_1$ - $C_6$  alkyl; or

 $R_{16}$ ,  $R_{17}$ , and the nitrogen to which they are attached form a morpholinyl ring; and

- $R_{18}$  is  $C_1$ - $C_6$  alkyl optionally substituted with -O-( $C_2$ - $C_6$  alkanoyl,  $C_1$ - $C_6$  hydroxyalkyl,  $C_1$ - $C_6$  dihydroxyalkyl,  $C_1$ - $C_6$  alkoxy,  $C_1$ - $C_6$  alkoxy,  $C_1$ - $C_6$  alkyl, mono or dialkylamino  $C_1$ - $C_6$  alkyl.
- 20 30. A compound according to claim 29, wherein  $R_5$  is of the formula:

$$Z_1$$
 or  $Z_2$   $Z_3$  or  $Z_3$  or  $Z_2$   $Z_3$   $Z_2$   $Z_3$   $Z_2$   $Z_3$ 

Z<sub>1</sub> is H, halogen, C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> haloalkyl, C<sub>1</sub>-C<sub>4</sub>

hydroxyalkyl, C<sub>1</sub>-C<sub>4</sub> dihydroxyalkyl, or C<sub>1</sub>-C<sub>4</sub> alkoxy; and

 $Z_2 \text{ is } C_1\text{-}C_4 \text{ alkyl}, \text{-}C(O) NR_6R_7, \text{-}(C_1\text{-}C_4 \text{ alkyl})\text{-}C(O) NR_6R_7, \text{-}NR_6R_7, \\ NR_6R_7(C_1\text{-}C_6 \text{ alkyl}), \quad C_1\text{-}C_6 \text{ hydroxyalkyl}, \quad C_1\text{-}C_6 \\ \text{dihydroxyalkyl}, \text{ halogen}, \quad C_1\text{-}C_4 \text{ alkoxy}, \quad CO_2R, \quad OH, \quad C_1\text{-}C_6 \\ \text{alkoxycarbonyl}, \text{ or } C_1\text{-}C_4 \text{ haloalkyl};$ 

 $Z_3 \text{ is H, } C_1\text{-}C_4 \text{ alkyl}, \text{-}C(O) NR_6R_7, \text{-}(C_1\text{-}C_4 \text{ alkyl})\text{-}C(O) NR_6R_7, \text{-}NR_6R_7, \\ NR_6R_7(C_1\text{-}C_6 \text{ alkyl}), \quad C_1\text{-}C_6 \text{ hydroxyalkyl}, \quad C_1\text{-}C_6 \\ \text{dihydroxyalkyl}, \text{ halogen, } C_1\text{-}C_4 \text{ alkoxy, } CO_2R, \text{ OH, } C_1\text{-}C_6 \\ \text{alkoxycarbonyl, or } C_1\text{-}C_4 \text{ haloalkyl};$ 

### 5 wherein

R<sub>6</sub> and R<sub>7</sub> at each occurrence are independently H, OH, C<sub>1</sub>-C<sub>6</sub> alkyl, amino C<sub>1</sub>-C<sub>4</sub> alkyl, NH(C<sub>1</sub>-C<sub>6</sub> alkyl)alkyl, N(C<sub>1</sub>-C<sub>6</sub> alkyl) (C<sub>1</sub>-C<sub>6</sub> alkyl) C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>1</sub>-C<sub>6</sub> hydroxyalkyl, C<sub>1</sub>-C<sub>6</sub> dihydroxyalkyl, C<sub>1</sub>-C<sub>6</sub> alkoxy C<sub>1</sub>-C<sub>6</sub> alkyl, -SO<sub>2</sub>(C<sub>1</sub>-C<sub>6</sub> alkyl), -SO<sub>2</sub>NH<sub>2</sub>, -SO<sub>2</sub>NH(C<sub>1</sub>-C<sub>6</sub> alkyl), -SO<sub>2</sub>N(C<sub>1</sub>-C<sub>6</sub> alkyl) (C<sub>1</sub>-C<sub>6</sub> alkyl), or C<sub>1</sub>-C<sub>6</sub> alkanoyl, each of which is optionally substituted with 1, 2, or 3 groups that are independently halogen, OH, SH, C<sub>3</sub>-C<sub>6</sub> cycloalkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>1</sub>-C<sub>4</sub> alkyl, OH, CF<sub>3</sub>, or OCF<sub>3</sub>.

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31. A compound according to claim 30, wherein  $\ensuremath{R_5}$  is of the formula:

$$Z_1$$
 $Z_2$ 
 $Z_3$ 

## wherein

- 20  $Z_1$  is H, halogen,  $C_1$ - $C_4$  alkyl,  $C_1$ - $C_4$  haloalkyl,  $C_1$ - $C_4$  hydroxyalkyl,  $C_1$ - $C_4$  dihydroxyalkyl, or  $C_1$ - $C_4$  alkoxy; and
  - $Z_2 \text{ is } C_1-C_4 \text{ alkyl}, -C(O)NR_6R_7, -(C_1-C_4 \text{ alkyl})-C(O)NR_6R_7, -NR_6R_7, \\ NR_6R_7(C_1-C_6 \text{ alkyl}), C_1-C_6 \text{ hydroxyalkyl}, C_1-C_6 \\ dihydroxyalkyl, halogen, C_1-C_4 \text{ alkoxy}, CO_2R, OH, C_1-C_6 \\ alkoxycarbonyl, or C_1-C_4 \text{ haloalkyl};$
  - Z<sub>3</sub> is H, C<sub>1</sub>-C<sub>4</sub> alkyl, -C(O)NR<sub>6</sub>R<sub>7</sub>, -(C<sub>1</sub>-C<sub>4</sub> alkyl)-C(O)NR<sub>6</sub>R<sub>7</sub>, -NR<sub>6</sub>R<sub>7</sub>,  $NR_6R_7(C_1-C_6 \quad alkyl), \quad C_1-C_6 \quad hydroxyalkyl, \quad C_1-C_6 \quad dihydroxyalkyl, \quad halogen, \quad C_1-C_4 \quad alkoxy, \quad CO_2R, \quad OH, \quad C_1-C_6 \quad alkoxycarbonyl, \quad or \quad C_1-C_4 \quad haloalkyl, \quad wherein$
- 30  $R_6$  and  $R_7$  at each occurrence are independently H, OH,  $C_1$ - $C_6$  alkyl, amino  $C_1$ - $C_4$  alkyl, NH( $C_1$ - $C_6$  alkyl)alkyl, N( $C_1$ - $C_6$

alkyl) ( $C_1$ - $C_6$  alkyl)  $C_1$ - $C_6$  alkyl,  $C_1$ - $C_6$  hydroxyalkyl,  $C_1$ - $C_6$  dihydroxyalkyl,  $C_1$ - $C_6$  alkoxy  $C_1$ - $C_6$  alkyl,  $-SO_2(C_1$ - $C_6$  alkyl),  $-SO_2NH_2$ ,  $-SO_2NH(C_1$ - $C_6$  alkyl),  $-SO_2N(C_1$ - $C_6$  alkyl) ( $C_1$ - $C_6$  alkyl), or  $C_1$ - $C_6$  alkanoyl, each of which is optionally substituted with 1, 2, or 3 groups that are independently halogen, OH, SH,  $C_3$ - $C_6$  cycloalkyl,  $C_1$ - $C_4$  alkoxy,  $C_1$ - $C_4$  alkyl, OH,  $CF_3$ , or  $OCF_3$ .

32. A compound according to claim 30, wherein  $\ensuremath{R_5}$  is of the formula:

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wherein

 $Z_1$  is H, halogen,  $C_1$ - $C_4$  alkyl,  $C_1$ - $C_4$  haloalkyl,  $C_1$ - $C_4$  hydroxyalkyl,  $C_1$ - $C_4$  dihydroxyalkyl, or  $C_1$ - $C_4$  alkoxy; and

 $Z_2 \text{ is } C_1-C_4 \text{ alkyl}, -C(O)NR_6R_7, -(C_1-C_4 \text{ alkyl})-C(O)NR_6R_7, -NR_6R_7, \\ NR_6R_7(C_1-C_6 \text{ alkyl}), C_1-C_6 \text{ hydroxyalkyl}, C_1-C_6 \\ dihydroxyalkyl, halogen, C_1-C_4 \text{ alkoxy}, CO_2R, OH, C_1-C_6 \\ alkoxycarbonyl, or C_1-C_4 \text{ haloalkyl};$ 

 $Z_3$  is H,  $C_1$ - $C_4$  alkyl, -C(O)NR<sub>6</sub>R<sub>7</sub>, -( $C_1$ - $C_4$  alkyl)-C(O)NR<sub>6</sub>R<sub>7</sub>, -NR<sub>6</sub>R<sub>7</sub>, NR<sub>6</sub>R<sub>7</sub>, NR<sub>6</sub>R<sub>7</sub> (C<sub>1</sub>-C<sub>6</sub> alkyl), C<sub>1</sub>-C<sub>6</sub> hydroxyalkyl, C<sub>1</sub>-C<sub>6</sub> dihydroxyalkyl, halogen, C<sub>1</sub>-C<sub>4</sub> alkoxy, CO<sub>2</sub>R, OH, C<sub>1</sub>-C<sub>6</sub> alkoxycarbonyl, or C<sub>1</sub>-C<sub>4</sub> haloalkyl, wherein

R<sub>6</sub> and R<sub>7</sub> at each occurrence are independently H, OH, C<sub>1</sub>-C<sub>6</sub> alkyl, amino C<sub>1</sub>-C<sub>4</sub> alkyl, NH(C<sub>1</sub>-C<sub>6</sub> alkyl)alkyl, N(C<sub>1</sub>-C<sub>6</sub> alkyl)(C<sub>1</sub>-C<sub>6</sub> alkyl) C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>1</sub>-C<sub>6</sub> hydroxyalkyl, C<sub>1</sub>-C<sub>6</sub> dihydroxyalkyl, C<sub>1</sub>-C<sub>6</sub> alkoxy C<sub>1</sub>-C<sub>6</sub> alkyl, -SO<sub>2</sub>(C<sub>1</sub>-C<sub>6</sub> alkyl), -SO<sub>2</sub>NH<sub>2</sub>, -SO<sub>2</sub>NH(C<sub>1</sub>-C<sub>6</sub> alkyl), -SO<sub>2</sub>N(C<sub>1</sub>-C<sub>6</sub> alkyl)(C<sub>1</sub>-C<sub>6</sub> alkyl), or C<sub>1</sub>-C<sub>6</sub> alkanoyl, each of which is optionally substituted with 1, 2, or 3 groups that are independently halogen, OH, SH, C<sub>3</sub>-C<sub>6</sub> cycloalkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>1</sub>-C<sub>4</sub> alkyl, OH, CF<sub>3</sub>, or OCF<sub>3</sub>.

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33. A compound according to claim 29, wherein  $R_{5} \mbox{ is either}$ 

$$Z_1$$
 $Z_2$ 
 $Z_3$ 
 $Z_2$ 
 $Z_3$ 
 $Z_2$ 
 $Z_3$ 
 $Z_3$ 

wherein

 $Z_1$  is H, halogen,  $C_1$ - $C_4$  alkyl,  $C_1$ - $C_4$  haloalkyl,  $C_1$ - $C_4$  hydroxyalkyl,  $C_1$ - $C_4$  dihydroxyalkyl, or  $C_1$ - $C_4$  alkoxy; and

 $Z_3 \text{ is H, } C_1\text{-}C_4 \text{ alkyl, } -C(0) NR_6R_7, -(C_1\text{-}C_4 \text{ alkyl}) -C(0) NR_6R_7, -NR_6R_7, \\ NR_6R_7(C_1\text{-}C_6 \text{ alkyl}), C_1\text{-}C_6 \text{ hydroxyalkyl, } C_1\text{-}C_6 \\ \text{dihydroxyalkyl, halogen, } C_1\text{-}C_4 \text{ alkoxy, } CO_2R, C_1\text{-}C_6 \\ \text{alkoxycarbonyl, } -(C_1\text{-}C_4 \text{ alkyl}) -NR_{15}C(0) NR_{16}R_{17}, \text{ or } -(C_1\text{-}C_4 \text{ alkyl}) -NR_{15}C(0) R_{18};$ 

R<sub>6</sub>, R<sub>7</sub>, and the nitrogen to which they are attached form a piperidinyl, pyrrolidinyl, piperazinyl, or a morpholinyl ring optionally substituted with 1 or 2 groups that are independently alkyl, hydroxy, hydroxy C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> dihydroxyalkyl, or halogen;

 $R_{15}$  is H or  $C_1$ - $C_6$  alkyl;

R<sub>16</sub> and R<sub>17</sub> are independently H or C<sub>1</sub>-C<sub>6</sub> alkyl; or

 $R_{16}$ ,  $R_{17}$ , and the nitrogen to which they are attached form a morpholinyl ring;

 $R_{18}$  is  $C_1$ - $C_6$  alkyl optionally substituted with -O-( $C_2$ - $C_6$  alkanoyl,  $C_1$ - $C_6$  hydroxyalkyl,  $C_1$ - $C_6$  dihydroxyalkyl,  $C_1$ - $C_6$  alkoxy,  $C_1$ - $C_6$  alkoxy,  $C_1$ - $C_6$  alkyl, amino  $C_1$ - $C_6$  alkyl, mono or dialkylamino  $C_1$ - $C_6$  alkyl.

 $34\,.$  A compound according to claim 33, wherein  $R_5$  is of the formula:

$$Z_1$$
 $Z_3$ 

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 $Z_1$  is H, halogen,  $C_1$ - $C_4$  alkyl,  $C_1$ - $C_4$  haloalkyl,  $C_1$ - $C_4$  hydroxyalkyl,  $C_1$ - $C_4$  dihydroxyalkyl, or  $C_1$ - $C_4$  alkoxy; and

 $Z_3 \text{ is H, } C_1-C_4 \text{ alkyl}, -C(O)NR_6R_7, -(C_1-C_4 \text{ alkyl})-C(O)NR_6R_7, -NR_6R_7, \\ NR_6R_7(C_1-C_6 \text{ alkyl}), C_1-C_6 \text{ hydroxyalkyl}, C_1-C_6 \\ dihydroxyalkyl, \text{ halogen, } C_1-C_4 \text{ alkoxy, } CO_2R, C_1-C_6 \\ alkoxycarbonyl, -(C_1-C_4 \text{ alkyl})-NR_{15}C(O)NR_{16}R_{17}, \text{ or } -(C_1-C_4 \text{ alkyl})-NR_{15}C(O)R_{18};$ 

 $R_6$ ,  $R_7$ , and the nitrogen to which they are attached form a piperidinyl, pyrrolidinyl, piperazinyl, or a morpholinyl ring optionally substituted with 1 or 2 groups that are independently alkyl, hydroxy, hydroxy  $C_1$ - $C_4$  alkyl,  $C_1$ - $C_4$  dihydroxyalkyl, or halogen;

 $R_{16}$  and  $R_{17}$  are independently H or  $C_1$ - $C_6$  alkyl; or

R<sub>15</sub> is H or C<sub>1</sub>-C<sub>6</sub> alkyl;

 $R_{16}$ ,  $R_{17}$ , and the nitrogen to which they are attached form a morpholinyl ring;

 $R_{18}$  is  $C_1$ - $C_6$  alkyl optionally substituted with -O-( $C_2$ - $C_6$  alkanoyl,  $C_1$ - $C_6$  hydroxyalkyl,  $C_1$ - $C_6$  dihydroxyalkyl,  $C_1$ - $C_6$  alkoxy,  $C_1$ - $C_6$  alkoxy,  $C_1$ - $C_6$  alkyl, amino  $C_1$ - $C_6$  alkyl, mono or dialkylamino  $C_1$ - $C_6$  alkyl.

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35. A compound according to claim 33, wherein  $\ensuremath{R_{5}}$  is of the formula:

5 wherein

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 $Z_1$  is H, halogen,  $C_1$ - $C_4$  alkyl  $C_1$ - $C_4$  haloalkyl,  $C_1$ - $C_4$  hydroxyalkyl,  $C_1$ - $C_4$  dihydroxyalkyl, or  $C_1$ - $C_4$  alkoxy; and

 $Z_3 \text{ is H, } C_1-C_4 \text{ alkyl, } -C(O) NR_6R_7, -(C_1-C_4 \text{ alkyl}) -C(O) NR_6R_7, -NR_6R_7, \\ NR_6R_7(C_1-C_6 \text{ alkyl}), C_1-C_6 \text{ hydroxyalkyl, } C_1-C_6 \\ \text{dihydroxyalkyl, halogen, } C_1-C_4 \text{ alkoxy, } CO_2R, C_1-C_6 \\ \text{alkoxycarbonyl, } -(C_1-C_4 \text{ alkyl}) -NR_{15}C(O) NR_{16}R_{17}, \text{ or } -(C_1-C_4 \text{ alkyl}) -NR_{15}C(O) R_{18};$ 

R<sub>6</sub>, R<sub>7</sub>, and the nitrogen to which they are attached form a piperidinyl, pyrrolidinyl, piperazinyl, or a morpholinyl ring, each of which is optionally substituted with 1 or 2 groups that are independently alkyl, hydroxy, hydroxy C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> dihydroxyalkyl, or halogen;

 $R_{15}$  is H or  $C_1$ - $C_6$  alkyl;

 $R_{16}$  and  $R_{17}$  are independently H or  $C_1$ - $C_6$  alkyl; or  $R_{16}$ ,  $R_{17}$ , and the nitrogen to which they are attached form a morpholinyl ring;

 $R_{18}$  is  $C_1$ - $C_6$  alkyl optionally substituted with -O-( $C_2$ - $C_6$  alkanoyl,  $C_1$ - $C_6$  hydroxyalkyl,  $C_1$ - $C_6$  dihydroxyalkyl,  $C_1$ - $C_6$  alkoxy,  $C_1$ - $C_6$  alkoxy,  $C_1$ - $C_6$  alkyl, amino  $C_1$ - $C_6$  alkyl, mono or dialkylamino  $C_1$ - $C_6$  alkyl.

### 36. A compound of the formula

or a pharmaceutically acceptable salt thereof, wherein

L and M are indepedently selected from -O-, -CH<sub>2</sub>-, -S-,-NR-, N(R)-N(R)-, C(=O)-, -SO<sub>2</sub>-;

 $R_5$  is  $X_C$  or

wherein

 $X_1$ ,  $X_2$ ,  $X_a$ ,  $X_b$ ,  $X_c$ ,  $X_d$ , and  $X_e$  at are independently selected from  $-C(O)NR_6R_7$ ,  $-(C_1-C_4 \text{ alkyl})-C(O)NR_6R_7$ ,  $-NR_6R_7$ , hydroxy( $C_1-C_4$ ) 10  $C_4$ ) alkyl,  $C_1$ - $C_4$  dihydroxyalkyl, H, OH, halogen, haloalkyl, alkyl, haloalkoxy, heteroaryl, heterocycloalkyl, C3-C7  $R_6R_7N-(C_1-C_6 \quad alkyl)-,$  $-CO_2$ - $(C_1$ - $C_6)$ alkyl, cycloalkyl,  $-N(R)C(O)NR_6R_7$ ,  $-N(R)C(O)-(C_1-C_6)alkoxy$ ,  $CO_2R-(C_1-C_6)alkyl$ )wherein the heteroaryl  $-SO_2NR_6R_7$ ; heterocycloalkyl groups are optionally substituted with -15  $NR_6R_7$ ,  $-C(0)NR_6R_7$ ,  $R_6R_7N-(C_1-C_6 \ alkyl)-, <math>C_1-C_6 \ alkyl$ ,  $C_1-C_6$ alkoxy, or halogen; or

 $R_5$  is heteroaryl or heteroarylalkyl, wherein the heteroaryl and heteroaryl groups are optionally substituted with 1,2, 3, or 4 groups that are independently  $-C(O)NR_6R_7$ ,  $-(C_1-C_4)$  alkyl) $-C(O)NR_6R_7$ ,  $-NR_6R_7$ , hydroxy( $C_1-C_4$ )alkyl,  $C_1-C_4$  dihydroxyalkyl, H, OH, halogen, haloalkyl, alkyl, haloalkoxy,  $R_6R_7N-(C_1-C_6)$  alkyl)-,  $-CO_2-(C_1-C_6)$  alkyl,  $-N(R)C(O)NR_6R_7$ , or  $-N(R)C(O)-(C_1-C_6)$  alkoxy; wherein

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 $R_6$  and  $R_7$  are independently at each occurrence  $H_1$ ,  $C_1$ - $C_6$ alkyl,  $C_1-C_6$  alkoxy,  $C_1-C_6$  alkoxy  $C_1-C_6$  alkyl,  $C_1-C_6$ alkoxycarbonyl, OH, C1-C6 hydroxyalkyl,  $C_1 - C_4$ dihydroxyalkyl,  $C_1-C_6$  thiohydroxyalkyl,  $-(C_1-C_4)$  alkyl- $CO_2$ -alkyl, pyridyl  $C_1$ - $C_6$  alkyl,  $C_1$ - $C_6$  alkanoyl, benzyl, phenyl C<sub>1</sub>-C<sub>6</sub> alkoxy, or phenyl C<sub>1</sub>-C<sub>6</sub> alkanoyl, wherein each of the above is unsubstituted or substituted with 1, 2, or 3 groups that are independently, halogen,  $C_3-C_6$  cycloalkyl,  $C_1-C_6$ alkoxy, piperidinyl  $C_1$ - $C_6$  alkyl, morpholinyl  $C_1$ - $C_6$ alkyl, piperazinyl C<sub>1</sub>-C<sub>6</sub> alkyl, OH, NH(alkyl), N(alkyl)(alkyl),  $-O-C_1-C_4$  alkanoyl,  $C_1-C_4$ alkyl, CF3, or OCF3; or

R<sub>6</sub>, R<sub>7</sub>, and the nitrogen to which they are attached form a morpholinyl, thiomorpholinyl, piperidinyl, pyrrolidinyl, or piperazinyl ring which is optionally substituted with 1 or 2 groups that are independently C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, hydroxy, hydroxy C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> dihydroxyalkyl, or halogen; R at each occurrence is independently H or C<sub>1</sub>-C<sub>6</sub> alkyl; and

Y, Y<sub>1</sub>, Y<sub>2</sub>, Y<sub>3</sub>, and Y<sub>4</sub> are independently selected from H, halogen, alkyl, carboxaldehyde, hydroxyalkyl, dihydroxyalkyl, alkenyl, alkynyl, CN, alkanoyl, alkoxy, alkoxyalkyl, haloalkyl, and carboxyl.

# 37. A compound according to claim 36 of the formula

$$X_1$$
 $X_2$ 
 $X_2$ 
 $Y_1$ 
 $Y_2$ 
 $Y_2$ 
 $Y_3$ 

or a pharmaceutically acceptable salt thereof.

38. A compound according to claim 37, wherein

$$Xa$$
 $Xe$ 
 $Xb$ 
 $Xd$ 
 $Xb$ 
 $Xc$ 
 $Xb$ 
 $Xd$ 
 $Xc$ 
 $Xd$ 
 $Xd$ 
 $Xd$ 
 $Xd$ 

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- 39. A compound according to claim 31, wherein  $Y_2$ ,  $Y_4$ , and Y are independently halogen; and  $Y_1$  and  $Y_3$  are both hydrogen.
- 10 40. A compound according to claim 39, wherein

$$Xa$$
 $Xb$ 
 $Xb$ 
 $Xc$ 
 $Xd$ 

 $X_1$  and  $X_2$  are independently H, methyl,  $NR_6R_7$ ,  $-(C_1-C_4$  alkyl)-  $C(O)NR_6R_7$ ,  $R_6R_7N-(C_1-C_6$  alkyl)-,  $-C(O)NR_6R_7$ ,  $C_1-C_6$  hydroxyalkyl,  $C_1-C_6$  dihydroxyalkyl, or  $-(C_1-C_4$  alkyl)- morpholinyl; and

 $X_a$  and  $X_e$  are independently halogen,  $NH_2$ ,  $NH(C_1-C_6 \ alkyl)$ ,  $N(C_1-C_6 \ alkyl)$ , methyl, or hydrogen.

41. A compound according to claim 40, wherein one of  $X_b$  and  $X_c$  is hydrogen and the other is  $-NR_6R_7$ ,  $R_6R_7N-(C_1-C_6 \text{ alkyl})-, -C(O)NR_6R_7$ ,  $-SO_2NR_6R_7$ , or halogen; where

 $R_6$  and  $R_7$  are independently at each occurrence H,  $C_1$ - $C_6$  alkyl,  $C_1$ - $C_6$  alkoxy,  $C_1$ - $C_6$  alkoxy,  $C_1$ - $C_6$  alkoxycarbonyl, OH,  $C_1$ - $C_6$  hydroxyalkyl,  $C_1$ - $C_6$  dihydroxyalkyl, -( $C_1$ - $C_4$ )alkyl- $C_2$ -alkyl, pyridyl  $C_1$ - $C_6$  alkyl,  $C_1$ - $C_6$  alkanoyl, benzyl, phenyl  $C_1$ - $C_6$  alkoxy, or

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phenyl  $C_1$ - $C_6$  alkanoyl, wherein each of the above is unsubstituted or substituted with 1, 2, or 3 groups that are independently, halogen,  $C_3$ - $C_6$  cycloalkyl,  $C_1$ - $C_6$  alkoxy, piperidinyl  $C_1$ - $C_6$  alkyl, morpholinyl  $C_1$ - $C_6$  alkyl, piperazinyl  $C_1$ - $C_6$  alkyl, OH, SH, NH<sub>2</sub>, NH(alkyl), N(alkyl)(alkyl), -O- $C_1$ - $C_4$  alkanoyl,  $C_1$ - $C_4$  alkyl, CF<sub>3</sub>, or OCF<sub>3</sub>; or

- R<sub>6</sub>, R<sub>7</sub>, and the nitrogen to which they are attached form a morpholinyl, thiomorpholinyl, piperidinyl, pyrrolidinyl, or piperazinyl ring which is optionally substituted with 1 or 2 groups that are independently C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, hydroxy, hydroxy C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> dihydroxyalkyl, or halogen.
- 15 42. A compound according to claim 41, wherein R<sub>6</sub> and R<sub>7</sub> are independently at each occurrence H, C<sub>1</sub>-C<sub>6</sub> alkyl,  $C_1 - C_6$ alkoxy,  $C_1 - C_6$ alkoxy  $C_1 - C_6$ alkyl,  $C_1-C_6$ alkoxycarbonyl, OH.  $C_1 - C_6$ hydroxyalkyl,  $C_1 - C_6$ dihydroxyalkyl,  $-(C_1-C_4)$ alkyl $-CO_2$ -alkyl, pyridyl  $C_1 - C_6$ alkyl, C<sub>1</sub>-C<sub>6</sub> alkanoyl, benzyl, phenyl C<sub>1</sub>-C<sub>6</sub> alkoxy, or 20 phenyl C<sub>1</sub>-C<sub>6</sub> alkanoyl, wherein each of the above is unsubstituted or substituted with 1, 2, or 3 groups that are independently, halogen, C<sub>3</sub>-C<sub>6</sub> cycloalkyl, C<sub>1</sub>-C<sub>6</sub> alkoxy, piperidinyl C1 - C6 alkyl, morpholinyl  $C_1 - C_6$ 25 piperazinyl  $C_1 - C_6$ alkyl, OH,  $NH_2$ , NH(alkyl), N(alkyl)(alkyl),  $-O-C_1-C_4$  alkanoyl,  $C_1-C_4$  alkyl,  $CF_3$ , or OCF<sub>3</sub>.

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 $R_6$  and  $R_7$  are independently at each occurrence H,  $C_1$ - $C_6$  alkyl,  $C_1$ - $C_6$  hydroxyalkyl,  $C_1$ - $C_4$  dihydroxyalkyl,  $C_1$ - $C_6$  alkoxy,  $C_1$ - $C_6$  alkoxy  $C_1$ - $C_6$  alkyl, or  $C_1$ - $C_6$  alkanoyl, wherein each of the above is optionally substituted with 1, 2, or 3 groups that are independently OH, SH, halogen, or  $C_3$ - $C_6$  cycloalkyl.

### 44. A compound according to claim 39, wherein

X<sub>a</sub> is H, fluoro, chloro, or methyl;
X<sub>e</sub> is hydrogen, halogen, or methyl; and
X<sub>b</sub> is H;
X<sub>d</sub> is H or halogen;

45. A compound according to claim 44, wherein  $X_c$  is  $-SO_2NR_6R_7$ , or halogen; wherein

R<sub>6</sub> and R<sub>7</sub> are independently at each occurrence H, C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>1</sub>-C<sub>6</sub> alkoxy, C<sub>1</sub>-C<sub>6</sub> alkoxy C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>1</sub>-C<sub>6</sub> alkoxycarbonyl, OH, C<sub>1</sub>-C<sub>6</sub> hydroxyalkyl, C<sub>1</sub>-C<sub>6</sub> dihydroxyalkyl, -(C<sub>1</sub>-C<sub>4</sub>)alkyl-CO<sub>2</sub>-alkyl, pyridyl C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>1</sub>-C<sub>6</sub> alkanoyl, benzyl, phenyl C<sub>1</sub>-C<sub>6</sub> alkoxy, or phenyl C<sub>1</sub>-C<sub>6</sub> alkanoyl, wherein each of the above is unsubstituted or substituted with 1, 2, or 3 groups that are independently, halogen, C<sub>3</sub>-C<sub>6</sub> cycloalkyl, C<sub>1</sub>-C<sub>6</sub> alkoxy, piperidinyl C<sub>1</sub>-C<sub>6</sub> alkyl, morpholinyl C<sub>1</sub>-C<sub>6</sub> alkyl, piperazinyl C<sub>1</sub>-C<sub>6</sub> alkyl, OH, SH, NH<sub>2</sub>, NH(alkyl), N(alkyl)(alkyl), -O-C<sub>1</sub>-C<sub>4</sub> alkanoyl, C<sub>1</sub>-C<sub>4</sub> alkyl, CF<sub>3</sub>, or OCF<sub>3</sub>; or

R<sub>6</sub>, R<sub>7</sub>, and the nitrogen to which they are attached form a morpholinyl, thiomorpholinyl, piperidinyl, pyrrolidinyl, or piperazinyl ring which is optionally substituted with 1 or 2 groups that are independently C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, hydroxy, hydroxy C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> dihydroxyalkyl, or halogen; or

 $X_c$  is fluoro, chloro, -NH<sub>2</sub>, -NH(C<sub>1</sub>-C<sub>6</sub> alkyl), -N(C<sub>1</sub>-C<sub>6</sub> alkyl)(C<sub>1</sub>-C<sub>6</sub> alkyl), -SO<sub>2</sub>NH<sub>2</sub>, -SO<sub>2</sub>NH(C<sub>1</sub>-C<sub>6</sub> alkyl), -SO<sub>2</sub>N(C<sub>1</sub>-C<sub>6</sub> alkyl), or piperazinyl, wherein the piperazinyl group is optionally substituted with 1 or 2 groups that are independently C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, hydroxy, hydroxy C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> dihydroxyalkyl, or halogen.

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46. A compound according to claim 44, wherein  $X_c \text{ is } -C(O)\,NR_6R_7, \ -(C_1-C_6 \text{ alkyl}) -C(O)\,NR_6R_7, \ -NR_6R_7, \text{ or } R_6R_7N-(C_1-C_6 \text{ alkyl}) -; \text{ wherein }$ 

 $R_6$  and  $R_7$  are independently at each occurrence H,  $C_1$ - $C_6$ alkyl,  $C_1$ - $C_6$  alkoxy,  $C_1$ - $C_6$  alkoxy  $C_1$ - $C_6$  alkyl,  $C_1$ - $C_6$ 20 alkoxycarbonyl, OH,  $C_1$ - $C_6$  hydroxyalkyl, dihydroxyalkyl,  $C_1-C_6$  dihydroxyalkyl,  $-(C_1-C_4)$ alkyl- $CO_2$ -alkyl, pyridyl  $C_1$ - $C_6$  alkyl,  $C_1$ - $C_6$ benzyl, phenyl  $C_1$ - $C_6$  alkoxy, or phenyl  $C_1$ - $C_6$  alkanoyl, wherein each of the above is unsubstituted or 25 substituted with 1, 2, or 3 groups that are independently, halogen,  $C_3 - C_6$ cycloalkyl, alkoxy, piperidinyl C1-C6 alkyl, morpholinyl C1-C6 alkyl, piperazinyl C<sub>1</sub>-C<sub>6</sub> alkyl, OH, -NH<sub>2</sub>, -NH(alkyl), -N(alkyl)(alkyl),  $-O-C_1-C_4$  alkanoyl,  $C_1-C_4$  alkyl,  $CF_3$ , 30 or OCF3; or

 $R_6$ ,  $R_7$ , and the nitrogen to which they are attached form a morpholinyl, thiomorpholinyl, piperidinyl,

pyrrolidinyl, orpiperazinyl ring which optionally substituted with 1 or 2 groups that are independently  $C_1-C_4$  alkyl,  $C_1-C_4$  alkoxy, hydroxy, hydroxy  $C_1$ - $C_4$  alkyl,  $C_1$ - $C_4$  dihydroxyalkyl, or halogen.

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A compound according to claim 46, wherein

R<sub>6</sub> is hydrogen; and

- $R_7$  is  $C_1$ - $C_6$  alkyl or  $C_1$ - $C_6$  alkanoyl, each of which is optionally substituted with 1, 2, or 3 groups that are independently 10  $NH_2$ ,  $NH(C_1-C_6 \text{ alkyl})$ ,  $N(C_1-C_6 \text{ alkyl})(C_1-C_6 \text{ alkyl})$ , OH, SH, cyclopropyl, or C<sub>1</sub>-C<sub>4</sub> alkoxy;
  - A compound according to claim 47, wherein 48.  $X_c$  is  $-C(0)NR_6R_7$ .

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- A compound according to claim 47, wherein  $X_c$  is  $NR_6R_7$ , or  $R_6R_7N-(C_1-C_6 \text{ alkyl})-.$ 
  - A compound according to claim 38, wherein
- 20 Xa is hydrogen;
  - two of X<sub>b</sub>, X<sub>c</sub>, and X<sub>d</sub> are hydrogen and the other is -C(O)NR<sub>6</sub>R<sub>7</sub>,  $-(C_1-C_6 \text{ alkyl})-C(0)NR_6R_7$ ,  $-NR_6R_7$ ,  $R_6R_7N-(C_1-C_6 \text{ alkyl})- or CO_2$ -( $C_1$ - $C_6$ ) alkyl; wherein

 $R_6$  and  $R_7$  are independently at each occurrence H,  $C_1$ - $C_6$ alkyl,  $C_1$ - $C_6$  alkoxy,  $C_1$ - $C_6$  alkoxy  $C_1$ - $C_6$  alkyl, 25  $C_1 - C_6$ alkoxycarbonyl, OH,  $C_1 - C_6$ hydroxyalkyl,  $C_1-C_6$ dihydroxyalkyl,  $-(C_1-C_4)$ alkyl $-CO_2$ -alkyl, pyridyl  $C_1-C_6$ alkyl, C<sub>1</sub>-C<sub>6</sub> alkanoyl, benzyl, phenyl C<sub>1</sub>-C<sub>6</sub> alkoxy, or phenyl C<sub>1</sub>-C<sub>6</sub> alkanoyl, wherein each of the above is 30 unsubstituted or substituted with 1, 2, or 3 groups that are independently, halogen, C3-C6 cycloalkyl, C<sub>1</sub>-C<sub>6</sub> alkoxy, piperidinyl C<sub>1</sub>-C<sub>6</sub> alkyl, morpholinyl C<sub>1</sub>-C<sub>6</sub> alkyl, piperazinyl C<sub>1</sub>-C<sub>6</sub> alkyl, OH, NH<sub>2</sub>, NH(alkyl),

N(alkyl)(alkyl),  $-O-C_1-C_4$  alkanoyl,  $C_1-C_4$  alkyl,  $CF_3$ , or  $OCF_3$ ; or

R<sub>6</sub>, R<sub>7</sub>, and the nitrogen to which they are attached form a morpholinyl, piperidinyl, pyrrolidinyl, or piperazinyl ring which is optionally substituted with 1 or 2 groups that are independently C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, hydroxy, hydroxy C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> dihydroxyalkyl, or halogen; and

 $X_e$  is hydrogen, methyl,  $C_1$ - $C_2$  alkoxy, or halogen.

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51. A compound according to claim 50, wherein

 $X_b$  is  $-C(O)NR_6R_7$ ,  $-(C_1-C_6$  alkyl)  $-C(O)NR_6R_7$ ,  $-NR_6R_7$ , or  $R_6R_7N-(C_1-C_6$  alkyl) - wherein

R<sub>6</sub> is hydrogen or C<sub>1</sub>-C<sub>4</sub> alkyl;

15  $R_7$  is OH,  $C_1$ - $C_6$  alkyl or  $C_1$ - $C_6$  alkanoyl, wherein the alkyl and alkanoyl groups substituted with 1, 2, or 3 groups that are independently  $NH_2$ ,  $NH(C_1$ - $C_6$  alkyl),  $N(C_1$ - $C_6$  alkyl),  $C_3$ - $C_6$  cycloalkyl, OH, or  $C_1$ - $C_4$  alkoxy.

20 52. A compound according to claim 38, wherein

X<sub>a</sub> is halogen or methyl;

 $X_b$  is H,  $-NR_6R_7$ ,  $R_6R_7N-(C_1-C_6 \text{ alkyl})-$ ,  $-C(O)NR_6R_7$ , or  $-CO_2-(C_1-C_6)$  alkyl;

X<sub>c</sub> is -NR<sub>6</sub>R<sub>7</sub>, R<sub>6</sub>R<sub>7</sub>N-(C<sub>1</sub>-C<sub>6</sub> alkyl)-, -C(O)NR<sub>6</sub>R<sub>7</sub>, halogen, -CO<sub>2</sub>-(C<sub>1</sub>-C<sub>6</sub>)alkyl, NH<sub>2</sub>, NH(C<sub>1</sub>-C<sub>6</sub> alkyl), N(C<sub>1</sub>-C<sub>6</sub> alkyl)(C<sub>1</sub>-C<sub>6</sub> alkyl),
-SO<sub>2</sub>NH<sub>2</sub>, -SO<sub>2</sub>NH(C<sub>1</sub>-C<sub>6</sub> alkyl), -SO<sub>2</sub>N(C<sub>1</sub>-C<sub>6</sub> alkyl)(C<sub>1</sub>-C<sub>6</sub>
alkyl), or piperazinyl, wherein the piperazinyl group is optionally substituted with 1 or 2 groups that are independently C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, hydroxy, hydroxy
C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> dihydroxyalkyl, or halogen;

X<sub>d</sub> is hydrogen;

 $X_e$  is H, methyl,  $NH_2$ ,  $NH(C_1-C_6$  alkyl) or  $N(C_1-C_6$  alkyl)( $C_1-C_6$  alkyl).

53. A compound according to claim 38, wherein

 $X_1$ ,  $X_2$ ,  $X_a$ ,  $X_b$ ,  $X_c$ ,  $X_d$ , and  $X_e$  are independently selected from H, OH, halogen,  $CF_3$ , alkyl,  $OCF_3$ , pyridyl, pyridazinyl, pyrimidyl, pyrazinyl, thienyl, furyl, pyrrolyl, piperidinyl, piperazinyl, or  $C_3$ - $C_7$  cycloalkyl, wherein each of the above is optionally substituted with  $-NR_6R_7$ ,  $-C(O)NR_6R_7$ ,  $-(C_1-C_4$  alkyl)- $-C(O)NR_6R_7$ ,  $R_6R_7N-(C_1-C_6$  alkyl)-,  $C_1-C_6$  alkyl,  $C_1-C_6$  alkoxy, or halogen.

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54. A compound according to claim 37, wherein

 $R_5$  is a heteroaryl or heteroarylalkyl group, where each heteroaryl is pyrazolyl, imidazolyl, furanyl, pyridyl, pyrimidinyl, pyridazinyl, pyrazinyl, pyrazolyl, imidazolyl, dihydroindolyl, dihydroisoindolyl, indolon-2-15 yl, quinolinyl, isoquinolinyl, tetrahydroisoquinolinyl, dihydroisoquinolinyl, or indolyl, each of which is optionally substituted with 1, 2, 3, or 4 groups that are independently  $-C(0)NR_6R_7$ ,  $-(C_1-C_4 \text{ alkyl})-C(0)NR_6R_7$ ,  $-NR_6R_7$ , hydroxy  $(C_1-C_4)$  alkyl,  $C_1-C_4$ 20 dihydroxyalkyl, hydrogen, hydroxy, halogen, haloalkyl, alkyl, haloalkoxy, R<sub>6</sub>R<sub>7</sub>N-(C<sub>1</sub>- $-CO_2-(C_1-C_6)$  alkyl, alkyl)-,  $-N(R)C(O)NR_6R_7$ ,  $-N(R)C(0)-(C_1-C_6)$  alkoxy; wherein

> $R_6$  and  $R_7$  are independently at each occurrence H,  $C_1\text{-}C_6$ alkyl,  $C_1$ - $C_6$  alkoxy,  $C_1$ - $C_6$  alkoxy  $C_1$ - $C_6$  alkyl,  $C_1$ - $C_6$ alkoxycarbonyl, OH,  $C_1-C_6$ hydroxyalkyl,  $C_1 - C_6$ dihydroxyalkyl,  $C_1$ - $C_6$  thiohydroxyalkyl, -  $(C_1$ - $C_4)$  alkyl-CO<sub>2</sub>-alkyl, pyridyl C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>1</sub>-C<sub>6</sub> alkanoyl, benzyl, phenyl  $C_1$ - $C_6$  alkoxy, or phenyl  $C_1$ - $C_6$  alkanoyl, wherein each of the above is unsubstituted or substituted with 1, 2, or 3 groups that independently, halogen,  $C_3 - C_6$ cycloalkyl,  $C_1-C_6$ alkoxy, piperidinyl C1-C6 alkyl, morpholinyl C1-C6

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alkyl, piperazinyl  $C_1$ - $C_6$  alkyl, OH, SH, NH<sub>2</sub>, NH(alkyl), N(alkyl)(alkyl), -O- $C_1$ - $C_4$  alkanoyl,  $C_1$ - $C_4$  alkyl, CF<sub>3</sub>, or OCF

- 5 55. A compound according to claim 54, wherein  $Y_2$ ,  $Y_4$ , and Y are independently halogen; and  $Y_1$  and  $Y_3$  are both hydrogen.
- 57. A compound according to claim 56, wherein

  R<sub>5</sub> is pyridyl C<sub>1</sub>-C<sub>6</sub> alkyl, pyrimidinyl C<sub>1</sub>-C<sub>6</sub> alkyl, or pyrazinyl

  C<sub>1</sub>-C<sub>6</sub> alkyl, each of which is optionally substituted with

  1, 2, or 3 groups that are independently hydroxy(C<sub>1</sub>
  C<sub>4</sub>)alkyl, C<sub>1</sub>-C<sub>4</sub> dihydroxyalkyl, OH, halogen, CF<sub>3</sub>, (C<sub>1</sub>
  C<sub>4</sub>)alkyl, OCF<sub>3</sub>, -NR<sub>6</sub>R<sub>7</sub>, -(C<sub>1</sub>-C<sub>4</sub> alkyl)-C(O)NR<sub>6</sub>R<sub>7</sub>, R<sub>6</sub>R<sub>7</sub>N-(C<sub>1</sub>
  C<sub>6</sub> alkyl)-, or -C(O)NR<sub>6</sub>R<sub>7</sub>.
  - 58. A compound according to claim 57, wherein  $\ensuremath{R_5}$  is of the formula:

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wherein

- $Z_5$  is hydroxy( $C_1$ - $C_4$ )alkyl,  $C_1$ - $C_4$  dihydroxyalkyl, OH, halogen,  $CF_3$ , ( $C_1$ - $C_4$ )alkyl, OCF $_3$ , -NR $_6$ R $_7$ , R $_6$ R $_7$ N-( $C_1$ - $C_6$  alkyl)-, -( $C_1$ - $C_4$  alkyl)-C(O)NR $_6$ R $_7$ , or -C(O)NR $_6$ R $_7$ , wherein
- 30  $R_6$  and  $R_7$  at each occurrence are independently H,  $C_1$ - $C_6$  alkyl optionally substituted with 1, 2, or 3 groups

that are independently  $C_1$ - $C_4$  alkoxycarbonyl, halogen,  $C_3$ - $C_6$  cycloalkyl, OH, SH, or  $C_1$ - $C_4$  alkoxy.

 $$59.\,$  A compound according to claim 57, wherein  $$5\,$  R5 is of the formula:

wherein

Z<sub>5</sub> is hydroxy(C<sub>1</sub>-C<sub>4</sub>)alkyl, C<sub>1</sub>-C<sub>4</sub> dihydroxyalkyl, OH, halogen,  $CF_3, \ (C_1-C_4)alkyl, \ OCF_3, \ -NR_6R_7, \ R_6R_7N-(C_1-C_6\ alkyl)-, \ -(C_1-C_4\ alkyl)-C(O)NR_6R_7, \ or \ -C(O)NR_6R_7, \ wherein$ 

 $R_6$  and  $R_7$  at each occurrence are independently H,  $C_1$ - $C_6$  alkyl optionally substituted with 1, 2, or 3 groups that are independently  $C_1$ - $C_4$  alkoxycarbonyl, halogen,  $C_3$ - $C_6$  cycloalkyl, OH, SH, or  $C_1$ - $C_4$  alkoxy.

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60. A compound according to claim 57, wherein

$$Z_{10}$$
 $N$ 
 $Z_{20}$ , where

R<sub>5</sub> is of the formula:

 $Z_{10}$  is H or methyl; and

 $Z_{20}$  is  $-(C_1-C_4 \text{ alkyl})-C(O)NR_6R_7$ , hydroxy $(C_1-C_4)$ alkyl,  $C_1-C_4$  dihydroxyalkyl, OH, halogen, CF<sub>3</sub>,  $(C_1-C_4)$ alkyl, OCF<sub>3</sub>,  $-NR_6R_7$ ,  $R_6R_7N-(C_1-C_6 \text{ alkyl})-$ , or  $-C(O)NR_6R_7$ , wherein

 $R_6$  and  $R_7$  at each occurrence are independently H,  $C_1$ - $C_6$  alkyl optionally substituted with 1, 2, or 3 groups that are independently  $C_1$ - $C_4$  alkoxycarbonyl, halogen,  $C_3$ - $C_6$  cycloalkyl, OH, SH, or  $C_1$ - $C_4$  alkoxy.

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61. A compound according to claim 57, wherein

$$Z_{10}$$
 $N$ 
 $Z_{20}$  wherein

 $R_5$  is of the formula:

Z<sub>10</sub> is H or methyl; and

$$\begin{split} &Z_{20} \text{ is } - (C_1 - C_4 \text{ alkyl}) - C(O) \, NR_6 R_7, \text{ hydroxy} \, (C_1 - C_4) \, \text{alkyl}, \quad C_1 - C_4 \\ &\text{dihydroxyalkyl}, \quad OH, \quad \text{halogen}, \quad CF_3, \quad (C_1 - C_4) \, \text{alkyl}, \quad OCF_3, \\ &- NR_6 R_7, \quad R_6 R_7 N - (C_1 - C_6 \text{ alkyl}) -, \quad \text{or } - C(O) \, NR_6 R_7, \quad \text{wherein} \end{split}$$

 $R_6$  and  $R_7$  at each occurrence are independently H,  $C_1$ - $C_6$  alkyl optionally substituted with 1, 2, or 3 groups that are independently  $C_1$ - $C_4$  alkoxycarbonyl, halogen,  $C_3$ - $C_6$  cycloalkyl, OH, SH, or  $C_1$ - $C_4$  alkoxy.

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62. A compound according to claim 57, wherein

$$Z_{10}$$
 $N$ 
 $Z_{20}$ , wherein

 $R_5$  is of the formula:

Z<sub>10</sub> is H or methyl; and

$$\begin{split} &Z_{20} \text{ is } - (C_1 - C_4 \text{ alkyl}) - C(O) \, NR_6R_7, \quad hydroxy(C_1 - C_4) \, alkyl, \quad C_1 - C_4 \\ &\text{dihydroxyalkyl}, \quad OH, \quad halogen, \quad CF_3, \quad (C_1 - C_4) \, alkyl, \quad OCF_3, \\ &-NR_6R_7, \quad R_6R_7N - (C_1 - C_6 \text{ alkyl}) -, \quad \text{or } -C(O) \, NR_6R_7, \quad \text{wherein} \end{split}$$

 $R_6$  and  $R_7$  at each occurrence are independently H,  $C_1$ - $C_6$  alkyl optionally substituted with 1, 2, or 3 groups that are independently  $C_1$ - $C_4$  alkoxycarbonyl, halogen,  $C_3$ - $C_6$  cycloalkyl, OH, SH, or  $C_1$ - $C_4$  alkoxy.

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63. A compound according to claim 57, wherein

$$Z_{10}$$
 $N$ 
 $Z_{20}$ , wherein

 $R_5$  is of the formula:  ${}^5$   $Z_{10}$  is H or methyl; and

 $Z_{20}$  is  $-(C_1-C_4$  alkyl)- $C(0)NR_6R_7$ , hydroxy( $C_1-C_4$ )alkyl,  $C_1-C_4$  dihydroxyalkyl, OH, halogen,  $CF_3$ , ( $C_1-C_4$ )alkyl, OCF<sub>3</sub>,  $-NR_6R_7$ ,  $R_6R_7N-(C_1-C_6$  alkyl)-, or  $-C(0)NR_6R_7$ , wherein  $R_6$  and  $R_7$  at each occurrence are independently H,  $C_1-C_6$  alkyl optionally substituted with 1, 2, or 3 groups that are independently  $C_1-C_4$  alkoxycarbonyl, halogen,  $C_3-C_6$  cycloalkyl, OH, SH, or  $C_1-C_4$  alkoxy.

64. A compound according to claim 57, wherein

$$Z_{10}$$
 $Z_{20}$ , wherein

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 $R_5$  is of the formula:  $Z_{20}$ , wherein  $Z_{10}$  is H or methyl; and  $Z_{20}$  is  $-(C_1-C_4)-C(0)$   $NR_6R_7$ , hydroxy( $C_1-C_4$ ) alkyl,  $C_1-C_4$ 

Z<sub>20</sub> is  $-(C_1-C_4)$  alkyl) -C(O) NR<sub>6</sub>R<sub>7</sub>, hydroxy( $C_1-C_4$ ) alkyl,  $C_1-C_4$  dihydroxyalkyl, OH, halogen, CF<sub>3</sub>, ( $C_1-C_4$ ) alkyl, OCF<sub>3</sub>,  $-NR_6R_7$ ,  $R_6R_7N-(C_1-C_6)$  alkyl) -, or -C(O) NR<sub>6</sub>R<sub>7</sub>, wherein

- $R_6$  and  $R_7$  at each occurrence are independently H,  $C_1$ - $C_6$  alkyl optionally substituted with 1, 2, or 3 groups that are independently  $C_1$ - $C_4$  alkoxycarbonyl, halogen,  $C_3$ - $C_6$  cycloalkyl, OH, SH, or  $C_1$ - $C_4$  alkoxy.
- 20 65. A compound according to claim 57, wherein

$$Z_{10}$$
 $Z_{20}$ , wherein

 $R_5$  is of the formula:

 $Z_{10}$  is H or methyl; and

 $Z_{20}$  is  $-(C_1-C_4$  alkyl)- $C(O)NR_6R_7$ , hydroxy( $C_1-C_4$ )alkyl,  $C_1-C_4$  dihydroxyalkyl, OH, halogen,  $CF_3$ , ( $C_1-C_4$ )alkyl, OCF<sub>3</sub>, -NR<sub>6</sub>R<sub>7</sub>, R<sub>6</sub>R<sub>7</sub>N-( $C_1-C_6$  alkyl)-, or -C(O)NR<sub>6</sub>R<sub>7</sub>, wherein

 $R_6$  and  $R_7$  at each occurrence are independently H,  $C_1$ - $C_6$  alkyl optionally substituted with 1, 2, or 3 groups

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that are independently  $C_1$ - $C_4$  alkoxycarbonyl, halogen,  $C_3$ - $C_6$  cycloalkyl, OH, SH, or  $C_1$ - $C_4$  alkoxy.

66. A compound according to claim 57, wherein

$$Z_{10}$$
 $Z_{20}$  wherein

5  $R_5$  is of the formula:

 $Z_{10}$  is H or methyl; and

$$\begin{split} &Z_{20} \text{ is } -(C_1-C_4 \text{ alkyl})-C(0)\,NR_6R_7, \text{ hydroxy}\,(C_1-C_4)\,\text{alkyl}\,, \quad C_1-C_4\\ &\text{dihydroxyalkyl}\,, \quad \text{OH}\,, \quad \text{halogen}\,, \quad CF_3\,, \quad (C_1-C_4)\,\text{alkyl}\,, \quad \text{OCF}_3\,,\\ &-NR_6R_7, \quad R_6R_7N-(C_1-C_6 \text{ alkyl})-, \quad \text{or } -C(0)\,NR_6R_7\,, \quad \text{wherein} \end{split}$$

- 10  $R_6$  and  $R_7$  at each occurrence are independently H,  $C_1$ - $C_6$  alkyl optionally substituted with 1, 2, or 3 groups that are independently  $C_1$ - $C_4$  alkoxycarbonyl, halogen,  $C_3$ - $C_6$  cycloalkyl, OH, SH, or  $C_1$ - $C_4$  alkoxy.
  - 67. A compound according to claim 57, wherein

$$Z_{10}$$
 $Z_{20}$  wherein

 $R_5$  is of the formula:

 $Z_{10}$  is H or methyl; and

$$\begin{split} &Z_{20} \text{ is } - (C_1 - C_4 \text{ alkyl}) - C(O) \, NR_6R_7, \quad hydroxy(C_1 - C_4) \, alkyl, \quad C_1 - C_4 \\ &\text{dihydroxyalkyl}, \quad OH, \quad halogen, \quad CF_3, \quad (C_1 - C_4) \, alkyl, \quad OCF_3, \\ &-NR_6R_7, \quad R_6R_7N - (C_1 - C_6 \text{ alkyl}) - , \quad \text{or } - C(O) \, NR_6R_7, \quad \text{wherein} \end{split}$$

 $R_6$  and  $R_7$  at each occurrence are independently H,  $C_1\text{-}C_6$  alkyl optionally substituted with 1, 2, or 3 groups that are independently  $C_1\text{-}C_4$  alkoxycarbonyl, halogen,  $C_3\text{-}C_6$  cycloalkyl, OH, SH, or  $C_1\text{-}C_4$  alkoxy.

68. A method of treating a TNF mediated disorder, a p38 kinase mediated disorder, inflammation and/or arthritis in a subject, the method comprising treating a subject having or

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susceptible to such disorder or condition with a compound of the formula:

$$R_4$$
 $R_5$ 
 $R_1$ 
 $R_5$ 

or a pharmaceutically acceptable salt thereof, wherein

5 R<sub>1</sub> is H, halogen, NO<sub>2</sub>, alkyl, carboxaldehyde, hydroxyalkyl, dihydroxyalkyl, arylalkoxy, arylalkyl, alkenyl, alkynyl, arylalkynyl, -CN, aryl, alkanoyl, alkoxy, alkoxyalkyl, haloalkyl, haloalkoxy, carboxyl, or arylalkanoyl,

wherein the aryl portion of arylalkoxy, arylalkyl, and arylalkanoyl is unsubstituted or substituted with 1, 2, 3, 4, or 5 groups that are independently halogen,  $C_1$ - $C_4$  alkyl,  $C_1$ - $C_4$  alkoxy, nitro, CN, haloalkyl, haloalkoxy or  $CO_2R$ ;

wherein the alkyl portion of the alkyl, hydroxyalkyl, dihydroxyalkyl, arylalkoxy, arylalkyl, alkanoyl, alkoxy, alkoxyalkyl and arylalkanoyl groups is unsubstituted or substituted with 1, 2, or 3 groups that are independently halogen, C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>1</sub>-C<sub>4</sub> alkoxycarbonyl, or C<sub>3</sub>-C<sub>7</sub> cycloalkyl;

20 OH, halogen,  $-OSO_2-(C_1-C_6)$  alkyl,  $-OSO_2$ -aryl,  $R_2$ is Η, arylalkoxy, - aryloxy, arylthio, arylthioalkoxy, arylalkynyl, alkoxy, aryloxy(C<sub>1</sub>-C<sub>6</sub>)alkyl, alkyl, alkynyl, -OC(O)NH(CH<sub>2</sub>)<sub>n</sub>aryl, -OC(O)N(alkyl)(CH<sub>2</sub>)<sub>n</sub>aryl, alkoxyalkoxy, dialkylamino, alkyl, alkoxy, aryl, arylalkyl, heteroaryl, 25 heteroarylalkyl, arylalkenyl, heterocycloalkyl, heterocycloalkylalkyl, alkoxyalkoxy, NR<sub>8</sub>R<sub>9</sub>, dialkylamino, or CO<sub>2</sub>R, wherein

each of which groups is unsubstituted or substituted with

1, 2, 3, 4, or 5 groups that are independently

n is 0, 1, 2, 3, 4, 5 or 6;

halogen,  $-(C_1-C_6)$  alkyl-N(R)  $-CO_2R_{30}$ , haloalkyl, heteroaryl, heteroarylalkyl,  $-NR_6R_7$ ,  $R_6R_7N - (C_1 - C_6)$  $alkyl) - , -C(O)NR_6R_7, -(C_1-C_4 alkyl) - C(O)NR_6R_7, -(C_1-C_4)$ alkyl)-NRC(O)NR<sub>16</sub>R<sub>17</sub>, haloalkoxy, alkyl, CN, alkoxy, alkoxycarbonyl, phenyl, -SO2-phenyl wherein 5 and -SO<sub>2</sub>-phenyl groups are phenyl optionally 3 groups that substituted with 1, 2, or independently halogen or  $NO_2$ , or  $-OC(O)NR_6R_7$ , wherein R<sub>16</sub> and R<sub>17</sub> are independently H or C<sub>1</sub>-C<sub>6</sub> alkyl; or  $R_{16}$ ,  $R_{17}$  and the nitrogen to which they are attached 10 form a morpholinyl ring;  $R_6$  and  $R_7$  are independently at each occurrence H, alkyl, hydroxyalkyl, dihydroxyalkyl, alkoxy, alkanoyl, arylalkyl, arylalkoxy, 15

alkoxycarbonyl, -SO<sub>2</sub>-alkyl, OH, alkoxyalkyl, arylalkoxycarbonyl,  $-(C_1-C_4)$ alkyl-CO<sub>2</sub>-alkyl, heteroarylalkyl, or arylalkanoyl, wherein each is unsubstituted or substituted with 1, 2, or 3 groups that are independently, halogen, OH, SH, heterocycloalkyl, heterocycloalkylalkyl, C<sub>3</sub>-C<sub>7</sub> cycloalkyl, alkoxy, NH<sub>2</sub>, NH(alkyl), N(alkyl)(alkyl), -O-alkanoyl, haloalkyl, carboxaldehyde, alkyl, haloalkoxy; or

 $R_6$ ,  $R_7$ , and the nitrogen to which they are attached form a morpholinyl, pyrrolidinyl, thiomorpholinyl, thiomorpholinyl S-oxide, thiomorpholinyl S,S-dioxide, piperidinyl, pyrrolidinyl, or piperazinyl ring which is optionally substituted with 1 or 2 groups that are independently C<sub>1</sub>-C<sub>4</sub> alkyl, alkoxycarbonyl, hydroxyl, hydroxyalkyl,  $C_1 - C_4$ alkoxy, dihydroxyalkyl, or halogen;

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R at each occurrence is independently hydrogen or  $C_1$ -  $C_6$  alkyl optionally substituted with optionally substituted with 1 or 2 groups that are independently OH, SH, halogen, amino, monoalkylamino, dialkylamino or  $C_3$ - $C_6$  cycloalkyl;

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 $R_{30}$  is  $C_1\text{-}C_6$  alkyl optionally substituted with 1 or 2 groups that are independently OH, SH, halogen, amino, monoalkylamino, dialkylamino or  $C_3\text{-}C_6$  cycloalkyl;

each R<sub>8</sub> is independently hydrogen, alkyl, alkanoyl, arylalkyl and arylalkanoyl, wherein each of the above is optionally substituted with 1, 2, 3, 4, or 5 groups that are independently alkyl, alkoxy, alkoxycarbonyl, halogen, or haloalkyl;

each R<sub>9</sub> is hydrogen, alkyl, alkanoyl, arylalkyl, cycloalkyl, cycloalkylalkyl, aminoalkyl, heteroaryl, monoalkylaminoalkyl, dialkylaminoalkyl, arylalkanoyl, -SO<sub>2</sub>-phenyl, wherein each aryl of the above optionally substituted with 1, 2, 3, 4, or 5 groups that are independently alkyl, alkoxy, alkoxycarbonyl, halogen, or haloalkyl;

 $R_4$  is hydrogen or  $R_4$  is alkyl unsubstituted or substituted with one or two groups that are independently CO<sub>2</sub>R, -CO<sub>2</sub>-(C<sub>1</sub>-25  $C_6$ ) alkyl,  $-C(0)NR_6R_7$ ,  $-(C_1-C_4)$ alkyl) -C(0)  $NR_6R_7$ ,  $-N(R_{30})C(O)NR_{16}R_{17}$ ,  $-N(R_{30})C(O)-(C_1-C_6)alkoxy$ , or $-NR_6R_7$ arylalkoxy, arylalkyl, heteroaryl, hydroxyalkyl, dihydroxyalkyl, haloalkyl,  $R_6R_7N-(C_1-C_6 \text{ alkyl})-$ ,  $-NR_6R_7$ , carboxaldehyde, CO<sub>2</sub>R, alkoxyalkyl, 30 alkoxy, alkoxyalkoxy, wherein the aryl portion of arylalkoxy and arylalkyl is unsubstituted or substituted with 1, 2, 3, 4, or 5 groups that are independently halogen, hydroxy,

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alkoxy, alkyl,  $-CO_2-(C_1-C_6)$  alkyl,  $-CONR_6R_7$ ,  $-NR_6R_7$ ,  $R_6R_7N_7$  $(C_1-C_6)$  alkyl-, nitro, haloalkyl, or haloalkoxy; and R<sub>5</sub> is H, aryl, arylalkyl, arylthioalkyl, alkyl optionally substituted with 1, 2, or 3 groups that are independently halogen, arylalkoxycarbonyl, -NR<sub>8</sub>R<sub>9</sub>, 5  $-C(O)NR_8R_9$ , alkoxycarbonyl, C<sub>3</sub>-C<sub>7</sub> cycloalkyl, or alkanoyl, alkoxy, alkoxyalkyl optionally substituted with one trimethylsilyl group, amino, alkoxycarbonyl, hydroxyalkyl, dihydroxyalkyl, alkynyl, -SO<sub>2</sub>-alkyl, alkoxy 10 optionally substituted with one trimethylsilyl group, heterocycloalkylalkyl, cycloalkyl, cycloalkylalkyl, -alkyl-SO $_2$ -aryl, alkyl-S-aryl, heteroarylalkyl, heterocycloalkyl, heteroaryl, or alkenyl optionally substituted with alkoxycarbonyl, wherein 15 each of the above is unsubstituted or substituted with 1, 2, 3, 4, or 5 groups that are independently alkyl, halogen, alkoxy, hydroxyalkyl, dihydroxyalkyl, arylalkoxy, thioalkoxy, alkoxycarbonyl, arylalkoxycarbonyl, CO₂R, CN, OH, hydroxyalkyl, dihydroxyalkyl, amidinooxime, -NR<sub>6</sub>R<sub>7</sub>, -NR<sub>8</sub>R<sub>9</sub>, R<sub>6</sub>R<sub>7</sub>N-20 (C<sub>1</sub>-C<sub>6</sub> alkyl)-, carboxaldehyde, SO<sub>2</sub>alkyl, -SO<sub>2</sub>H, -SO<sub>2</sub>NR<sub>6</sub>R<sub>7</sub>, alkanoyl wherein the alkyl portion is optionally substituted with OH, halogen or alkoxy, - $-(C_1-C_4)$  alkyl)  $-C(O)NR_6R_7$  $C(0)NR_6R_7$  $-(C_1-C_4)$  alkyl)  $-NR_{15}C(O)NR_{16}R_{17}$ ,  $-(C_1-C_4)$ 25 haloalkyl, alkyl)  $-NR_{15}C(O)R_{18}$ ,  $-O-CH_2-O$ ,  $-O-CH_2CH_2-O-$ , haloalkoxy; wherein  $R_{15}$  is H or  $C_1$ - $C_6$  alkyl;  $R_{18}$  is  $C_1$ - $C_6$  alkyl optionally substituted with -O-( $C_2$ - $C_6$ 30 alkanoyl, C<sub>1</sub>-C<sub>6</sub> hydroxyalkyl, C<sub>1</sub>-C<sub>6</sub> dihydroxyalkyl,  $C_1-C_6$  alkoxy,  $C_1-C_6$  alkoxy  $C_1-C_6$  alkyl; amino  $C_1-C_6$ alkyl, mono or dialkylamino C<sub>1</sub>-C<sub>6</sub> alkyl.

- 69. A compound according to claim 17, wherein  $Z_5$  is  $C_1$ - $C_4$  alkyl,  $C_1$ - $C_4$  hydroxyalkyl,  $C_1$ - $C_4$  dihydroxyalkyl, halogen,  $C_1$ - $C_6$  alkoxycarbonyl,  $CF_3$ , or  $C_1$ - $C_6$  alkanoyl.
- 70. A compound according to claim 17, wherein
  Z<sub>5</sub> is C<sub>1</sub>-C<sub>4</sub> alkyl, -C(O)NR<sub>6</sub>R<sub>7</sub>, -(C<sub>1</sub>-C<sub>4</sub> alkyl)-C(O)NR<sub>6</sub>R<sub>7</sub>, R<sub>6</sub>R<sub>7</sub>N-(C<sub>1</sub>-C<sub>6</sub> alkyl)-, or -NR<sub>6</sub>R<sub>7</sub>, CF<sub>3</sub>, or C<sub>1</sub>-C<sub>4</sub> alkanoyl, wherein
  10 R<sub>6</sub> and R<sub>7</sub> at each occurrence are independently H, C<sub>1</sub>-C<sub>6</sub> alkyl optionally substituted with 1, 2, or 3 groups that are independently C<sub>1</sub>-C<sub>4</sub> alkoxycarbonyl, halogen, C<sub>3</sub>-C<sub>6</sub> cycloalkyl, OH, SH, or C<sub>1</sub>-C<sub>4</sub> alkoxy.